

AD-A044 114

AIR FORCE OCCUPATIONAL MEASUREMENT CENTER LACKLAND A--ETC F/G 5/9
INSTRUMENT TRAINER SPECIALIST AFSC 34151.(U)

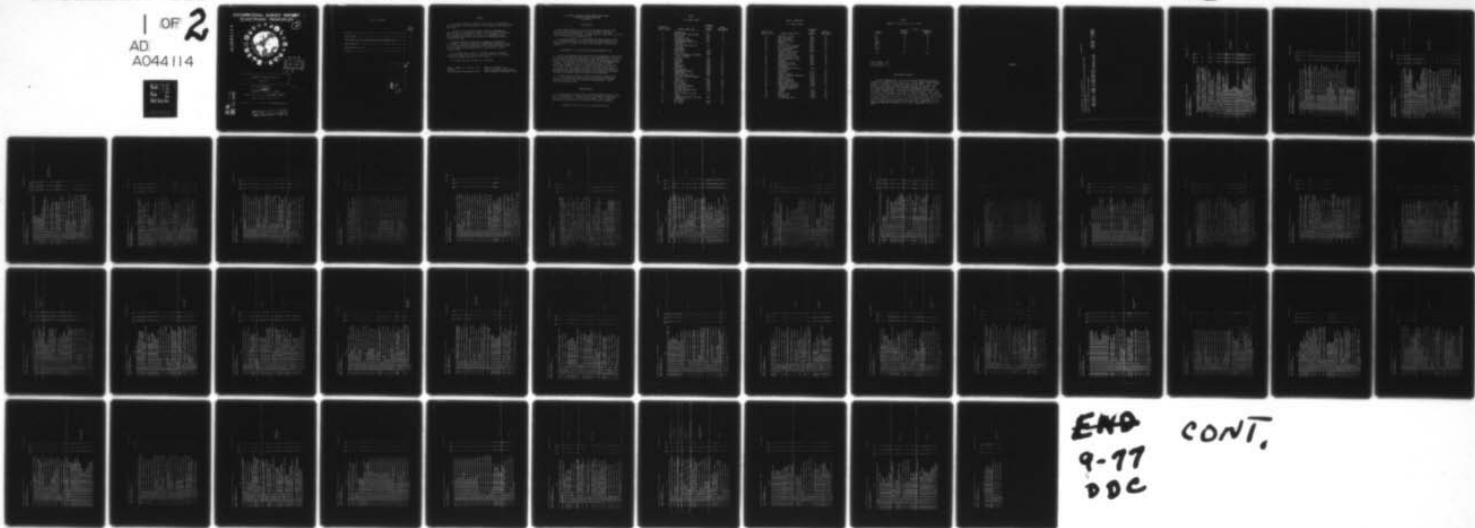
AUG 77

UNCLASSIFIED

1 OF 2
AD
A044114

AFPT-90-341-222

NL



END
9-77
DDC

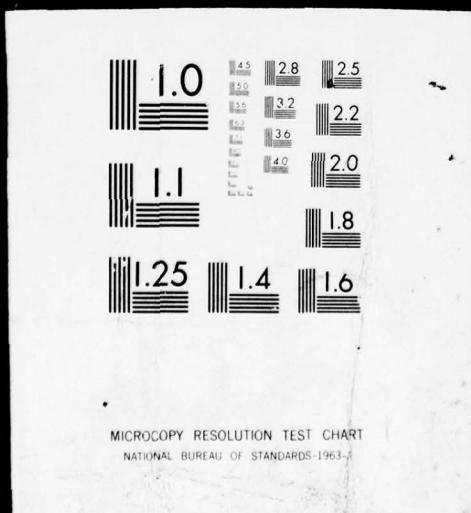
CONT.

FILED

1 OF 2

AD

A044 114



Q OCCUPATIONAL SURVEY REPORT
ELECTRONIC PRINCIPLES

Apr
Jun 77

AD A 044114



6 INSTRUMENT TRAINER SPECIALIST

AFSC 34151

14 AFPT-90-341-222
22 AUGUST 1977
OCCUPATIONAL SURVEY BRANCH
USAF OCCUPATIONAL MEASUREMENT CENTER
LACKLAND AFB TEXAS 78236

12 52P

APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED

COPY AVAILABLE TO DDCR DOES NOT
PERMIT FULLY LEGIBLE PROGRESSION

408 889

AD No.
DDC FILE COPY

TABLE OF CONTENTS

	<u>PAGE NUMBER</u>
PREFACE -----	2
INTRODUCTION -----	3
DEVELOPMENT OF THE ELECTRONIC PRINCIPLES INVENTORY (EPI) -----	3
ADMINISTRATION -----	3
PRESENTATION OF RESULTS -----	6
APPENDIX -----	7

ACCESSION for	
175	White Section <input checked="" type="checkbox"/>
180	Buff Section <input type="checkbox"/>
ANNOUNCED <input type="checkbox"/>	
FST LOCATION	
BY	
DISTRIBUTION/AVAILABILITY CODES	
Dis	Sp. CIAL
81	23

PF2

PREFACE

This report presents a summary of the results of a detailed Air Force Electronic Principles Survey of the Instrument Trainer Specialist, AFSC 34151.

The Electronic Principles Inventory (EPI) was developed by Major Thomas J. O'Connor and Mr. Hendrick W. Ruck and the survey data were analyzed by 1Lt Michael J. Kelley. All are members of the Occupational Survey Branch, USAF Occupational Measurement Center, Lackland AFB, Texas.

Computer programs for analyzing the data were designed by Dr. Raymond E. Cristal, Occupational and Manpower Research Division, Air Force Human Resources Laboratory (AFHRL), and were written by the Project Analysis and Programming Branch, Computational Sciences Division, AFHRL.

Distribution of this report is made upon request to the USAF Occupational Measurement Center, attention of the Chief, Occupational Survey Branch (OMY), Lackland AFB, Texas 78236.

This report has been reviewed and is approved.

JAMES A. TURNER, JR., Colonel, USAF
Commander
USAF Occupational Measurement Center

WALTER E. DRISKILL, Ph.D.
Chief, Occupational Survey Branch
USAF Occupational Measurement Center

ELECTRONIC PRINCIPLES OCCUPATIONAL SURVEY REPORT
INSTRUMENT TRAINER SPECIALIST
AFSC 34151

INTRODUCTION

~~This report summarizes the results of the administration of the Electronic Principles Inventory to airmen assigned as Instrument Trainer Specialists (AFSC 34151). The data for this report were collected during the period April through June 1977.~~

This report describes: (1) development and administration of the survey instrument; and (2) electronic principles used by DAFSC 5-skill level personnel both CONUS and overseas and assigned to selected major commands.

DEVELOPMENT OF THE ELECTRONIC PRINCIPLES INVENTORY (EPI)

The EPI was developed by personnel from the Occupational Survey Branch who were well qualified in theoretical physics and electronics, as well as in task analysis and survey development. Over 300 maintenance personnel from SAC, TAC, ADC, MAC, and AFCS participated in the development of the inventory. Representing the five ATC training centers, electronics experts who averaged 12 years of maintenance experience and four years of electronic principles instruction experience spent several weeks refining the EPI. In addition, personnel at the Electrical Engineering Department of the USAF Academy and the Air Force Human Resources Laboratory were consulted during the development of the inventory.

The final version of the EPI used in this survey contained 1,257 items in 62 subject matter areas covering all electronic principles training given at the five ATC technical training centers. Table 1 lists the 62 subject areas.

ADMINISTRATION

The Electronic Principles Inventory was administered by mail to AFSC 34151 airmen worldwide. Responses from 123 individuals represented 71 percent of the total of all AFSC 34151 personnel. Table 2 shows the percentage distribution by major command of the survey incumbents.

APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED

TABLE 1
EPI SUBJECT AREAS

SEQUENCE OF SUBJECT AREAS	SUBJECT AREA TITLE	BEGINNING ITEM NUMBER	GPSUM PAGE NUMBER
1	MATHEMATICS	A1	2
2	DIRECT CURRENT AND VOLTAGE	A15	2
3	RESISTANCE	A24	2
4	MULTIMETER USES	B52	3
5	ALTERNATING CURRENT	B61	4
6	INDUCTORS AND INDUCTIVE REACTANCE	B67	4
7	CAPACITORS AND CAPACITIVE REACTANCE	C92	5
8	TRANSFORMERS	C128	6
9	MAGNETISM	C171	7
10	RCL CIRCUITS	D185	8
11	SERIES AND PARALLEL RESONANCE (TIME CONSTANTS)	D229	10
12	FILTERS	D239	10
13	COUPLING	E261	11
14	SOLDERING	E273	11
15	RELAYS	E295	12
16	MICROPHONES	F314	12
17	SPEAKERS	F327	13
18	OSCILLOSCOPES	F342	13
19	SEMICONDUCTOR DIODES	G354	13
20	TRANSISTORS	G404	15
21	TRANSISTOR AMPLIFIERS	G428	16
22	SOLID-STATE SPECIAL PURPOSE DEVICES	H477	19
23	POWER SUPPLIES	H483	19
24	OSCILLATORS	H512	19
25	MULTIVIBRATORS	I539	20
26	LIMITERS AND CLAMPERS	I555	21
27	ELECTRON TUBES	I565	21
28	ELECTRON TUBE AMPLIFIERS AND CIRCUITS	J609	22
29	SPECIAL PURPOSE ELECTRON TUBES	J616	23
30	HETERODYNING, MODULATION, AND DEMODULATION	J632	23
31	AM SYSTEMS	K638	23
32	FM SYSTEMS	K666	24

TABLE 1 (CONTINUED)

EPI SUBJECT AREAS

SEQUENCE OF SUBJECT AREAS	SUBJECT AREA TITLE	BEGINNING ITEM NUMBER	GPSUM PAGE NUMBER
33	NUMBERING SYSTEMS	K685	25
34	LOGIC FUNCTIONS	L695	25
35	BOOLEAN EQUATIONS	L708	26
36	COUNTERS	L733	27
37	TIMING CIRCUITS	M757	27
38	USE OF SIGNAL GENERATORS	M769	28
39	MOTORS AND GENERATORS	M779	28
40	METER MOVEMENTS	N808	29
41	SATURABLE REACTORS AND MAGNETIC AMPLIFIERS	N818	29
42	WAVESHAPING CIRCUITS	N834	30
43	SINGLE SIDEBAND SYSTEMS	0845	30
44	PULSE MODULATION SYSTEMS	0875	31
45	ANTENNAS	0914	32
46	TRANSMISSION LINES	P953	34
47	WAVEGUIDES AND CAVITY RESONATORS	P984	35
48	MICROWAVE AMPLIFIERS AND OSCILLATORS	P1034	37
49	REGISTERS	Q1110	39
50	STORAGE DEVICES	Q1117	40
51	DIGITAL TO ANALOG CONVERTERS	Q1126	40
52	PHANTASTRONS	Q1140	41
53	SCHMITT TRIGGERS	R1141	41
54	CABLE FABRICATION	R1144	41
55	INPUT/OUTPUT DEVICES	S1146	41
56	PHOTO SENSITIVE DEVICES	S1149	41
57	SYNCHRONOUS VIBRATIONS (CHOPPER CIRCUITS)	S1150	41
58	INFRARED	T1159	41
59	LASERS	T1186	42
60	DISPLAY TUBES	T1220	43
61	PROGRAMMING	U1234	43
62	DB AND POWER RATIOS	U1255	44

TABLE 2
COMMAND REPRESENTATION OF SURVEY SAMPLE

COMMAND	PERCENT ASSIGNED	34151 PERCENT OF SAMPLE
ATC	79	78
MAC	6	7
TAC	6	7
USAFA	3	2
USAFE	2	2
ADC	2	2
AFSC	1	1
OTHER	1	1
TOTAL	100	100

Total Assigned - 173

Total Sampled - 123

Percent Sampled - 71%

PRESENTATION OF RESULTS

Personnel responded "yes" or "no" to the 1,257 electronic principles questions as related to their present job. A Group Summary (GPSUM) computer printout is provided in the Appendix portion of this report. Page 1 of the GPSUM lists the three selected groups identified for this report. Pages 2-44 show the percentage of the incumbents responding to the EPI items. The computer program results display the percent members answering "yes" to the subject area questions. The reader can locate a specific subject area by referring to the Appendix page number as listed in Table 1. For example, the Transformers area results are given on page 6 of the GPSUM. The percentage of survey respondents indicating use of specific electronic principles ranged from high in areas such as Resistance (pp. 2-3) and Oscilloscopes (p. 13) to low in areas such as AM and FM Systems (pp. 23-25). Additional AFSC 34151 data can be obtained upon request to the Chief, Occupational Survey Branch (OMY).

APPENDIX

PCT MARS RESPONDING *YES* BY SELECTED GRPS

TABULATION OF ELECTRONIC PRINCIPLES UTILIZATION DATA FOR SELECTED GROUPS
IN THE 34111 CAREER FIELD.

REPORTS ON THE FOLLOWING GROUPS WERE REQUESTED

GROUP IDENTITY #	SPC001	ALL AIRMEN DAFSC 34111	CONTAINING 123 MEMBERS.
GROUP IDENTITY #	SPC002	ALL AIRMEN DAFSC 34111 STATIONED IN CONUS	CONTAINING 117 MEMBERS.
GROUP IDENTITY #	SPC003	ALL AIRMEN DAFSC 34111 STATIONED OVERSEAS	CONTAINING 2 MEMBERS.

PCT HRS RESPONDING (YES) BY SELECTED GRPS
 TASK GROUP SUMMARY
 PERCENT MEMBERS PERFORMING

EPSUMI PAGE 2

UY-TSK

		SPC 001	SPC 002	SPC 003	
A	1 A1-01 IN YOUR PRESENT JOB, DO YOU USE INSTRUMENTS, SUCH AS METERS OR OSCILLOSCOPES, IN WHICH IT IS NECESSARY TO AMPLIFY OR ATTENUATE VOLTAGE, RESISTANCE, ETC., BY POWERS OF 10.	94	91	100	
A	2 A1-02 DO YOU USE PUBLICATIONS, SUCH AS A TECHNICAL ORDERS OR MAINTENANCE MANUALS, IN WHICH IT IS NECESSARY FOR YOU TO MULTIPLY OR DIVIDE BY A POWER OF 10 BEFORE YOU CAN APPLY THE INFORMATION FROM THE PUBLICATION IN A USEFUL WAY ON THE JOB.	29	29	0	
A	3 A1-03 DO YOU REARRANGE AND SOLVE FORMULAS OR EQUATIONS.	37	36	50	MATHEMATICS
A	4 A1-04 DO YOU CALCULATE THE SQUARE ROOT OF A QUANTITY.	16	16	0	
A	5 A1-05 DO YOU SOLVE FOR UNKNOWN QUANTITIES.	31	30	0	
A	6 A1-06 DO YOU CONVERT NUMBERS TO LOGARITHMS.	4	3	0	
A	7 A1-07 DO YOU USE LOGARITHM TABLES IN ANY TYPE OF CALCULATIONS.	5	4	0	
A	8 A1-08 DO YOU SOLVE QUADRATIC EQUATIONS.	7	7	0	
A	9 A1-09 DO YOU USE THE NATURAL SYSTEM OF LOGARITHMS.	2	2	0	
A	10 A1-10 DO YOU PERFORM CALCULATIONS ON VECTOR QUANTITIES.	16	16	50	
A	11 A1-11 DO YOU WORK WITH TRIGONOMETRIC FUNCTIONS SUCH AS SINE, COSINE, OR TANGENT.	33	31	50	
A	12 A1-12 DO YOU DETERMINE AREAS OF PLANE FIGURES.	7	6	50	
A	13 A1-13 DO YOU SOLVE OR USE SIMULTANEOUS EQUATIONS.	6	5	0	
A	14 A1-14 DO YOU SOLVE OR USE PROPORTIONS.	20	16	50	
A	15 A2-01 DO YOU USE THE TERM VOLTAGE OR VOLT (V).	56	53	100	
A	16 A2-02 DO YOU USE THE TERM ELECTROMOTIVE FORCE (EMF).	30	31	50	
A	17 A2-03 DO YOU USE THE TERM OHM.	54	51	100	DIRECT CURRENT AND VOLTAGE
A	18 A2-04 DO YOU USE THE TERM ION.	4	4	0	
A	19 A2-05 DO YOU USE THE TERM OHM.	4	4	0	
A	20 A2-06 DO YOU USE THE TERM AMPERE.	54	52	100	
A	21 A2-07 DO YOU USE THE TERM NEUTRON.	9	9	0	
A	22 A2-08 DO YOU USE THE TERM COULOMB.	13	14	0	
A	23 A2-09 DO YOU USE THE TERM PROTON.	10	10	0	
A	24 A3-01 DO YOU WORK WITH RESISTORS IN YOUR PRESENT JOB.	97	94	100	
A	25 A3-02 DO YOU INSPECT RESISTORS.	53	50	100	
A	26 A3-03 DO YOU CLEAN RESISTORS.	97	97	100	
A	27 A3-04 DO YOU ADJUST RESISTORS.	52	50	100	
A	28 A3-05 DO YOU CHECK OHMIC VALUE OR RESISTORS.	53	50	100	
A	29 A3-06 DO YOU REMOVE OR REPLACE RESISTORS.	53	50	100	
A	30 A3-07 DO YOU USE OR REFER TO TEMPERATURE COEFFICIENTS FOR RESISTORS ON ANY TASKS YOU PERFORM.	15	15	50	
A	31 A3-08 DO YOU USE OR REFER TO RESISTOR SYMBOLS SUCH AS FIXED RESISTOR SYMBOLS OR TAPPED RESISTOR SYMBOLS.	53	50	100	RESISTANCE
A	32 A3-09 DO YOU IDENTIFY OR CLASSIFY THE RESISTORS YOU WORK WITH AS CARBON, FIXED WIRE, SLIDE TAP, RHEOSTAT, OR POTENTIOMETER.	51	49	100	
A	33 A3-10 DO YOU USE RESISTOR COLOR CODES WHICH INDICATE OHMIC VALUE OF RESISTANCE.	51	50	50	

PCT MBR'S RESPONDING *YES* BY SELECTED GRPS
 TASK GROUP SUMMARY
 PERCENT MEMBERS PERFORMING

GPSUM1 PAGE 3

QY-TSK

	SPC	SPC	SPC
	Q01	Q02	Q03
A 34 A3-11 DO YOU USE RESISTOR COLOR CODES WHICH INDICATE TOLERANCE.	49	47	50
A 35 A3-12 DO YOU USE RESISTOR COLOR CODES WHICH INDICATE FAILURE RATE.	14	14	50
A 36 A3-13 DO YOU MAKE DECISIONS IN WHICH YOU MUST DETERMINE HOW TWO OR MORE BATTERIES MUST BE CONNECTED TOGETHER TO ACHIEVE A SPECIFIC VOLTAGE.	14	13	0
A 37 A3-14 DO YOU USE OR REFER TO THE SCHEMATIC SYMBOLS WHICH REPRESENT BATTERIES, FUSES, CONDUCTORS, LAMPS, OR SWITCHES.	53	50	100
A 38 A3-15 DO YOU CALCULATE TOTAL RESISTANCE FOR SERIES RESISTIVE CIRCUITS.	37	38	0
A 39 A3-16 DO YOU CALCULATE TOTAL CURRENT FOR SERIES RESISTIVE CIRCUITS.	31	32	0
A 40 A3-17 DO YOU CALCULATE INDIVIDUAL VOLTAGE DROPS FOR SERIES RESISTIVE CIRCUITS.	39	38	0
A 41 A3-18 DO YOU CALCULATE POWER DISSIPATION FOR SERIES RESISTIVE CIRCUITS.	25	25	0
A 42 A3-19 DO YOU CALCULATE TOTAL RESISTANCE FOR SERIES PARALLEL RESISTIVE CIRCUITS.	38	38	0
A 43 A3-20 DO YOU CALCULATE TOTAL CURRENT FOR SERIES PARALLEL RESISTIVE CIRCUITS.	32	32	0
A 44 A3-21 DO YOU CALCULATE INDIVIDUAL VOLTAGE DROPS FOR SERIES PARALLEL RESISTIVE CIRCUITS.	38	38	0
A 45 A3-22 DO YOU CALCULATE INDIVIDUAL BRANCH CURRENTS FOR SERIES PARALLEL RESISTIVE CIRCUITS.	31	31	0
A 46 A3-23 DO YOU CALCULATE POWER DISSIPATION FOR SERIES PARALLEL RESISTIVE CIRCUITS.	29	25	0
A 47 A3-24 DO YOU CALCULATE TOTAL RESISTANCE FOR PARALLEL RESISTIVE CIRCUITS.	37	34	0
A 48 A3-25 DO YOU CALCULATE TOTAL CURRENT FOR PARALLEL RESISTIVE CIRCUITS.	31	32	0
A 49 A3-26 DO YOU CALCULATE INDIVIDUAL VOLTAGE DROPS FOR PARALLEL RESISTIVE CIRCUITS.	34	34	0
A 50 A3-27 DO YOU CALCULATE INDIVIDUAL BRANCH CURRENTS FOR PARALLEL RESISTIVE CIRCUITS.	30	30	0
A 51 A3-28 DO YOU CALCULATE POWER DISSIPATION FOR PARALLEL RESISTIVE CIRCUITS.	23	23	0
B 52 B1-01 DO YOU MEASURE RESISTANCE.	52	50	100
B 53 B1-02 DO YOU REPAIR OMMETERS.	4	4	0
B 54 B1-03 DO YOU MEASURE VOLTAGE.	52	50	100
B 55 B1-04 DO YOU REPAIR VOLTMETERS.	2	2	0
B 56 B1-05 DO YOU REPAIR AMMETERS.	2	3	0
B 57 B1-06 DO YOU MEASURE CURRENT.	43	43	100
B 58 B1-07 DO YOU USE MULTIMETERS.	53	50	100
B 59 B1-08 DO YOU DIRECTLY USE A QUANTITY OF CHARGE CALLED A COULOMBS.	3	3	0
A 60 B1-09 DO YOU READ SCHEMATICS.	53	50	100

PCT MEMBERS RESPONDING 'YES' BY SELECTED GRPS
 TASK GROUP SUMMARY
 PERCENT MEMBERS PERFORMING

GP551 PAGE 4

		DY-TSK		SPC		SPC	
		CO:	CO2	CO:	CO2	CO:	CO2
8	61 B2=01 DO YOU USE OR REFER TO THE TERM EFFECTIVE VOLTAGE (RMS).			35	33	100	
8	62 B2=02 DO YOU USE OR REFER TO THE TERM PEAK TO PEAK VOLTAGE.			37	36	100	ALTERNATING CURRENT
8	63 B2=03 DO YOU USE OR REFER TO THE TERM AVERAGE VOLTAGE (DC).			16	15	100	
8	64 B2=04 DO YOU USE OR REFER TO THE TERM WAVE LENGTH.			40	38	100	
8	65 B2=05 DO YOU USE OR REFER TO THE TERM FREQUENCY.			18	17	50	
8	66 B2=06 DO YOU USE OR REFER TO THE TERM INSTANTANEOUS VALUE.			34	33	0	
8	67 B3=01 DO YOU WORK WITH INDUCTORS OR CIRCUITS CONTAINING			31	30	0	
8	INDUCTORS, CHOKE, OR CHOKE COILS IN YOUR PRESENT JOB.			19	20	0	
8	68 B3=02 DO YOU INSPECT INDUCTORS.			19	19	0	
8	69 B3=03 DO YOU CLEAN INDUCTORS.			32	31	0	
8	70 B3=04 DO YOU ADJUST INDUCTORS.			25	26	0	
8	71 B3=05 DO YOU REMOVE OR REPLACE INDUCTORS.			23	22	0	
8	72 B3=06 DO YOU USE OR REFER TO INDUCTANCE.			23	23	0	
8	73 B3=07 DO YOU USE OR REFER TO HENRIES.			5	5	0	
8	74 B3=08 DO YOU USE OR REFER TO INDUCTIVE REACTANCE.			7	7	0	
8	75 B3=09 DO YOU USE OR REFER TO COPPER LOSS IN INDUCTORS.			8	9	0	
8	76 B3=10 DO YOU USE OR REFER TO HYSTERESIS LOSS IN INDUCTORS.			10	9	0	
8	77 B3=11 DO YOU USE OR REFER TO EDDY CURRENT LOSS IN INDUCTORS			7	7	0	
8	78 B3=12 DO YOU USE OR REFER TO THE GENERAL RULE THAT			0	0	0	
8	INDUCTANCE IS PROPORTIONAL TO THE SQUARE OF THE NUMBER OF			0	0	0	
8	INDUCTORS AND			0	0	0	
8	79 B3=13 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE IN-			7	7	0	
8	DUCTANCE OF A COIL IS DIRECTLY PROPORTIONAL TO THE CROSS			0	0	0	
8	SECTIONAL AREA OF THE CORE.			0	0	0	
8	80 B3=14 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE			7	7	0	
8	INDUCTANCE OF A COIL IS INVERSELY PROPORTIONAL TO ITS			0	0	0	
8	LENGTH.			0	0	0	
8	81 B3=15 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE			0	0	0	
8	INDUCTANCE OF A COIL IS DIRECTLY PROPORTIONAL TO THE CROSS			0	0	0	
8	SECTIONAL AREA OF THE CORE.			0	0	0	
8	82 B3=16 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE			0	0	0	
8	PERMEABILITY OF THE CORE MATERIAL.			0	0	0	
8	83 B3=16 DO YOU CALCULATE INDUCTANCE FOR PARTICULAR INDUCTORS			0	0	0	
8	USING FORMULAS.			0	0	0	
8	84 B3=17 DO YOU CALCULATE THE TOTAL INDUCTANCE FOR INDUCTANCE			0	0	0	
8	IN SERIES.			0	0	0	
8	85 B3=18 DO YOU CALCULATE THE TOTAL INDUCTANCE FOR INDUCTORS			0	0	0	
8	IN PARALLEL.			0	0	0	
8	86 B3=19 DO YOU CALCULATE THE TOTAL INDUCTANCE FOR INDUCTORS			0	0	0	
8	IN SERIES-PARALLEL CIRCUITS.			0	0	0	
8	87 B3=20 DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT			15	15	0	
8	LEADS VOLTAGE IN AC INDUCTOR CIRCUITS.			7	7	0	
8	88 B3=21 DO YOU CALCULATE INDUCTIVE REACTANCE.			13	12	0	
8	89 B3=22 DO YOU USE OR REFER TO THE GENERAL RULE THAT			21	21	0	
8	INDUCTIVE REACTANCE IS DIRECTLY PROPORTIONAL TO FREQUENCY.			16	16	0	
8	90 B3=23 DO YOU WORK WITH AUDIO FREQUENCY INDUCTORS.			5	4	0	
8	91 B3=24 DO YOU WORK WITH RADIO FREQUENCY INDUCTORS.			0	0	0	

PCT HRS RESPONDING *YES* BY SELECTED GRPS
 TASK GROUP SUMMARY
 PERCENT MEMBERS PERFORMING

GPSUM1 PAGE 5

DRTSK	46	45	50	SPC	SPC	SPC
				001	002	003
C 92 C1=01 DO YOU WORK WITH CAPACITORS OR CIRCUITS CONTAINING CAPACITORS IN YOUR PRESENT JOB.	47	44	100			
C 93 C1=02 DO YOU INSPECT CAPACITORS.	24	25	50			
C 94 C1=03 DO YOU CLEAN CAPACITORS.	31	32	0			
C 95 C1=04 DO YOU ADJUST CAPACITORS.	43	42	0			
C 96 C1=05 DO YOU TEST CAPACITORS.	46	44	100			
C 97 C1=06 DO YOU DISCHARGE CAPACITORS.	51	49	100			
C 98 C1=07 DO YOU REMOVE OR REPLACE CAPACITORS.	9	9	0			
C 99 C1=08 DO YOU USE OR REFER TO DISTRIBUTED CAPACITANCE.	2	3	0			
C 100 C1=09 DO YOU USE OR REFER TO ORBITAL STRESS OF ELECTRONS IN A DIELECTRIC.	45	44	50			
C 101 C1=10 DO YOU USE OR REFER TO FARADS, MICROFARADS, OR PICOFARADS.	51	49	100			
C 102 C1=11 DO YOU USE OR REFER TO CAPACITANCE.	7	7	0			
C 103 C1=12 DO YOU USE OR REFER TO DIELECTRIC CONSTANT.	40	39	50			
C 104 C1=13 DO YOU USE OR REFER TO WORKING VOLTAGE RATING OF CAPACITORS.	24	24	0			
C 105 C1=14 DO YOU USE OR REFER TO CAPACITIVE REACTANCE	28	28	50			
C 106 C1=15 DO YOU USE OR REFER TO CAPACITOR COLOR CODES	50	49	100			
C 107 C1=16 DO YOU WORK WITH CAPACITORS IN DC CIRCUITS	45	42	100			
C 108 C1=17 DO YOU WORK WITH CAPACITORS IN AC CIRCUITS	41	40	50			
C 109 C1=18 DO YOU WORK WITH CAPACITORS IN CIRCUITS WITH BOTH DC AND AC	10	9	0			
C 110 C1=19 DO YOU WORK WITH CAPACITORS IN DON'T REMEMBER WHICH CIRCUITS	11	10	0			
C 111 C1=20 DO YOU CALCULATE CAPACITANCE FOR PARTICULAR CAPACITORS USING FORMULAS	7	8	0			
C 112 C1=21 DO YOU USE OR REFER TO THE GENERAL RULE THAT CAPACITANCE OF A CAPACITOR IS DIRECTLY PROPORTIONAL TO THE DIELECTRIC CONSTANT	7	7	0			
C 113 C1=22 DO YOU USE OR REFER TO THE GENERAL RULE THAT CAPACITANCE OF A CAPACITOR IS INVERSELY PROPORTIONAL TO THE DIELECTRIC THICKNESS	20	20	0			
C 114 C1=23 DO YOU CALCULATE THE TOTAL CAPACITANCE OF CAPACITORS IN SERIES	20	20	0			
C 115 C1=24 DO YOU CALCULATE THE TOTAL CAPACITANCE OF CAPACITORS IN PARALLEL	20	20	0			
C 116 C1=25 DO YOU CALCULATE THE TOTAL CAPACITANCE OF CAPACITORS IN SERIES-PARALLEL CIRCUITS	20	20	0			
C 117 C1=26 DC YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT DOES NOT FLOW THROUGH CAPACITORS, IT ONLY APPEARS TO DO SO	26	26	0			
C 118 C1=27 DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT LEADS VOLTAGE IN AC CAPACITOR CIRCUITS	21	21	0			
C 119 C1=28 DC YOU USE OR REFER TO THE GENERAL RULE THAT CAPACITIVE REACTANCE IS INVERSELY PROPORTIONAL TO FREQUENCY	18	17	0			
C 120 C1=29 DO YOU CALCULATE CAPACITIVE REACTANCE	15	15	0			

PCT MRS RESPONDING *YES* BY SELECTED GRPS
 TASK GROUP SUMMARY
 PERCENT MEMBERS PERFORMING

GPSUM1 PAGE 6

ITEM	TASK	GROUP	SUMMARY	PERCENT MEMBERS PERFORMING			SPC 001	SPC 002	SPC 003
				1	2	3			
UY-TSK									
C 121	C1-30	DO YOU WORK WITH MOTOR-STATOR (VARIABLE) CAPACITORS		20	21	50			
C 122	C1-31	DO YOU WORK WITH COMPRESSION (TRIMMER) CAPACITORS		23	24	0			
C 123	C1-32	DO YOU WORK WITH ELECTROLYTIC (FIXED) CAPACITORS		49	47	50			
C 124	C1-33	DO YOU WORK WITH PAPER (FIXED) CAPACITORS		46	44	50			
C 125	C1-34	DO YOU WORK WITH MICA (FIXED) CAPACITORS		48	46	50			
C 126	C1-35	DO YOU WORK WITH CERAMIC (FIXED) CAPACITORS		48	47	50			
C 127	C1-36	DO YOU WORK WITH DON'T REMEMBER WHICH TYPE OF CAPACITORS		9	9	50			
C 128	C2-01	DO YOU WORK WITH TRANSFORMERS IN YOUR PRESENT JIB		40	38	50			
C 129	C2-02	DO YOU INSPECT TRANSFORMERS		42	40	50			
C 130	C2-03	DO YOU CLEAN TRANSFORMERS		28	27	50			
C 131	C2-04	DO YOU ADJUST TRANSFORMERS		19	18	50			
C 132	C2-05	DO YOU TROUBLESHOOT TRANSFORMERS		40	39	50			
C 133	C2-06	DO YOU REMOVE OR REPLACE COMPLETE TRANSFORMERS		39	38	50			
C 134	C2-07	DO YOU REMOVE OR REPLACE TRANSFORMER PARTS, SUCH AS THE PRIMARY WINDING		7	7	0			
C 135	C2-08	DO YOU MAKE A DISTINCTION BETWEEN MUTUAL INDUCTION AND MUTUAL INDUCTANCE (MI)		5	5	0			
C 136	C2-09	DO YOU USE THE SYMBOL FOR MUTUAL INDUCTANCE, M		7	7	0			
C 137	C2-10	DO YOU REFER TO OR USE THE COEFFICIENT OF COUPLING WHEN WORKING WITH TRANSFORMERS		7	8	0			
C 138	C2-11	DO YOU CALCULATE TURNS RATIOS FOR TRANSFORMERS USING CURRENT OR VOLTAGE RATIOS		11	11	0			
C 139	C2-12	DO YOU REFER TO REFLECTED IMPEDANCE WHEN WORKING WITH TRANSFORMERS		5	5	0			
C 140	C2-13	DO YOU CALCULATE IMPEDANCE INTERACTIONS FOR TRANSFORMERS		4	4	0			
C 141	C2-14	DO YOU WORK WITH AUTOTRANSFORMERS		21	21	0			
C 142	C2-15	DO YOU WORK WITH POWER TRANSFORMERS		39	37	50			
C 143	C2-16	DO YOU WORK WITH AUDIO TRANSFORMERS		32	32	50			
C 144	C2-17	DO YOU WORK WITH RADIO FREQUENCY TRANSFORMERS		7	7	50			
C 145	C2-18	DO YOU WORK WITH DON'T REMEMBER WHAT TYPE OF TRANSFORMERS		7	7	0			
C 146	C2-19	DO YOU CHECK TRANSFORMERS FOR OPEN WINDINGS BY MEASURING RESISTANCE		37	36	0			
C 147	C2-20	DO YOU CHECK TRANSFORMERS FOR SHORTED WINDINGS BY MEASURING RESISTANCE		37	35	50			
C 148	C2-21	DO YOU CHECK TRANSFORMERS FOR SHORTED WINDINGS BY MEASURING OUTPUT VOLTAGES		36	34	50			
C 149	C2-22	DO YOU MEASURE RESISTANCE OF TRANSFORMER WINDINGS TO DETERMINE WHETHER A TRANSFORMER HAS A STEP-UP OR STEP-DOWN TURNS RATIO		22	21	0			
C 150	C2-23	DO YOU MEASURE OUTPUT VOLTAGE OF TRANSFORMERS TO DETERMINE WHETHER A TRANSFORMER HAS A STEP-UP OR STEP-DOWN TURNS RATIO		23	22	0			
C 151	C2-24	DO YOU REFER TO BASIC TRANSFORMER SCHEMATIC SYMBOLS FOR TRANSFORMERS		41	38	50			

PCT MARS RESPONDING 'YES' BY SELECTED GRPS
 TASK GROUP SUMMARY
 PERCENT MEMBERS PERFORMING

GPSUM1 PAGE 7

	SPC 001	SPC 002	SPC 003
DY-15K			
C 152 C2-25 DO YOU REFER TO MULTIPLE SECONDARY-WINDINGS SCHEMATIC SYMBOLS FOR TRANSFORMERS	36	35	0
C 153 C2-26 DO YOU REFER TO MULTIPLE TAP SCHEMATIC SYMBOLS FOR TRANSFORMERS	37	37	0
C 154 C2-27 DO YOU REFER TO CENTER TAP SCHEMATIC SYMBOLS FOR TRANSFORMERS	38	37	0
C 155 C2-28 DO YOU REFER TO AIR CORE SCHEMATIC SYMBOLS FOR TRANSFORMERS	20	21	0
C 156 C2-29 DO YOU REFER TO IRON CORE SCHEMATIC SYMBOLS FOR TRANSFORMERS	23	23	0
C 157 C2-30 DO YOU REFER TO COMBINATIONS OF THE ABOVE SCHEMATIC SYMBOLS FOR TRANSFORMERS	25	26	0
C 158 C2-31 DO YOU DETERMINE PHASE RELATIONSHIPS BETWEEN SECONDARY AND PRIMARY VOLTAGES OF TRANSFORMERS USING SCHEMATIC SYMBOLS	22	21	0
C 159 C2-32 DO YOU DETERMINE OR REFER TO THE TYPE OF CORE IN TRANSFORMERS YOU WORK WITH	10	10	0
C 160 C2-33 DO YOU REFER TO OR USE THE GENERAL RULE THAT THE TURNS RATIO OF A TRANSFORMER IS EQUAL TO THE VOLTAGE RATIO	18	17	0
C 161 C2-34 DO YOU USE OR REFER TO STEP-UP OR STEP-DOWN RATIOS FOR TRANSFORMERS	22	22	0
C 162 C2-35 DO YOU CALCULATE VOLTAGE RATIOS FOR TRANSFORMERS USING TURNS RATIOS	15	15	0
C 163 C2-36 DO YOU CALCULATE CURRENT RATIOS FOR TRANSFORMERS USING TURNS RATIOS	11	11	0
C 164 C2-37 DOES YOUR JOB INVOLVE ANY TASKS DEALING WITH THREE PHASE TRANSFORMERS	20	21	0
C 165 C2-38 DO YOU INSPECT THREE PHASE TRANSFORMERS	17	18	0
C 166 C2-39 DO YOU CLEAN OR LUBRICATE THREE PHASE TRANSFORMERS	7	7	0
C 167 C2-40 DO YOU ADJUST THREE PHASE TRANSFORMERS	6	6	0
C 168 C2-41 DO YOU TROUBLESHOOT THREE PHASE TRANSFORMERS	18	18	0
C 169 C2-42 DO YOU REMOVE OR REPLACE COMPLETE THREE PHASE TRANSFORMERS	17	17	0
C 170 C2-43 DO YOU REMOVE OR REPLACE THREE PHASE TRANSFORMER PARTS SUCH AS WINDINGS	4	4	0
C 171 C3-01 DO YOU USE OR REFER TO PERMANENT MAGNETS	20	21	0
C 172 C3-02 DO YOU USE OR REFER TO TEMPORARY MAGNETS	16	15	0
C 173 C3-03 DO YOU USE OR REFER TO RETENTIVITY OF MAGNETIC MATERIALS	4	4	0
C 174 C3-04 DO YOU USE OR REFER TO RELUCTANCE OF MAGNETIC MATERIALS	2	3	0
C 175 C3-05 DO YOU USE OR REFER TO PERMEABILITY OF MAGNETIC MATERIALS	3	3	0
C 176 C3-06 DO YOU USE OR REFER TO RESIDUAL MAGNETISM	0	0	0
C 177 C3-07 DO YOU USE OR REFER TO MAGNETIC LINES OF FORCE OR FLUX	11	12	0
C 178 C3-08 DO YOU USE OR REFER TO FERRIKS THEORY OF MAGNETISM	2	2	0

PCT MRS RESPONDING 'YES' BY SELECTED GRPS
 TASK GROUP SUMMARY
 PERCENT MEMBERS PERFORMING

GPSUM PAGE 8

QRY-TASK	SPC			SPC		
	CC1	CC2	CC3	CC1	CC2	CC3
C 179 C3-10 DO YOU USE OR REFER TO DUNAIN THEORY OF MAGNETISM	2	2	0	5	5	0
C 180 C3-11 DO YOU USE OR REFER TO MAGNETIC INDUCTION	5	5	0	2	3	0
C 181 C3-12 DO YOU USE OR REFER TO FLUX DENSITY	2	2	0	26	27	0
C 182 C3-12 DO YOU USE OR REFER TO THE GENERAL RULE THAT FOR MAGNETIC POLES, LIKE POLES REPEL AND UNLIKE POLES ATTRACT	26	27	0			
C 183 C3-13 DO YOU USE THE LEFT HAND THUMB RULE TO FIND THE DIRECTION OF MAGNETIC FIELDS ABOUT STRAIGHT WIRES	4	9	0			
C 184 C3-14 DO YOU USE THE LEFT HAND THUMB RULE TO FIND THE NORTH POLE OF A CURRENT CARRYING COIL	8	8	0			
D 185 D1-01 DO YOU WORK WITH RC, L, R, RCL CIRCUITS IN YOUR PRESENT JOB	24	29	0			
D 186 D1-02 DO YOU USE OR REFER TO VECTORS WHEN WORKING WITH RCL CIRCUITS	9	9	0			
D 187 D1-03 DO YOU USE OR REFER TO PYTHAGOREAN THEOREM WHEN WORKING WITH RCL CIRCUITS	7	7	0			
D 188 D1-04 DO YOU USE OR REFER TO SINE WHEN WORKING WITH RCL CIRCUITS	20	21	0			
D 189 D1-05 DO YOU USE OR REFER TO COSINE WHEN WORKING WITH RCL CIRCUITS	20	21	0			
D 190 D1-06 DO YOU USE OR REFER TO TANGENT WHEN WORKING WITH RCL CIRCUITS	9	9	0			
D 191 D1-07 DO YOU USE OR REFER TO WATTS WHEN WORKING WITH RCL CIRCUITS	19	19	0			
D 192 D1-08 DO YOU USE OR REFER TO TRUE POWER (PT) WHEN WORKING WITH RCL CIRCUITS	5	4	0			
D 193 D1-09 DO YOU USE OR REFER TO MAXIMUM POWER (PM) WHEN WORKING WITH RCL CIRCUITS	7	6	0			
D 194 D1-10 DO YOU USE OR REFER TO AVERAGE POWER (PAVE) WHEN WORKING WITH RCL CIRCUITS	6	5	0			
D 195 D1-11 DO YOU USE OR REFER TO APPARENT POWER (PA) WHEN WORKING WITH RCL CIRCUITS	7	6	0			
D 196 D1-12 DO YOU USE OR REFER TO POWER FACTOR (PF) WHEN WORKING WITH RCL CIRCUITS	6	6	0			
D 197 D1-13 DO YOU USE OR REFER TO RESONANT CIRCUITS WHEN WORKING WITH RCL CIRCUITS	11	11	0			
D 198 D1-14 DO YOU USE OR REFER TO BANDWIDTH WHEN WORKING WITH RCL CIRCUITS	5	4	0			
D 199 D1-15 DO YOU USE OR REFER TO SELECTIVITY WHEN WORKING WITH RCL CIRCUITS	6	5	0			
D 200 D1-16 DO YOU USE OR REFER TO RESONANT FREQUENCY WHEN WORKING WITH RCL CIRCUITS	10	9	0			
D 201 D1-17 DO YOU USE OR REFER TO HALF POWER POINTS WHEN WORKING WITH RCL CIRCUITS	4	4	0			
D 202 D1-18 DO YOU USE OR REFER TO HANDBASS REGION WHEN WORKING WITH RCL CIRCUITS	6	5	0			
D 203 D1-19 DO YOU USE OR REFER TO CIRCUIT Z WHEN WORKING WITH RCL CIRCUITS	3	3	0			

PCT MBR'S RESPONDING *YES* BY SELECTED GRPS
 TASK GROUP SUMMARY
 PERCENT MEMBERS PERFORMING

GPSUM1 PAGE 9

OBJ-TASK	SPC 001	SPC 002	SPC 003
D 204 D1=20 DO YOU USE OR REFER TO TANK CIRCUITS WHEN WORKING WITH RCL CIRCUITS	15	15	0
D 205 D1=21 DO YOU DETERMINE VALUES OF TRIGONOMETRIC FUNCTIONS USING FORMULAS	7	7	0
D 206 D1=22 DO YOU DRAW VOLTAGE, CURRENT, OR IMPEDANCE VECTOR DIAGRAMS FOR CIRCUITS	5	4	0
D 207 D1=23 DO YOU CALCULATE TOTAL IMPEDANCE FOR CAPACITIVE CIRCUITS	11	11	0
D 208 D1=24 DO YOU CALCULATE PHASE ANGLES BETWEEN IMPEDANCE AND RESISTANCE IN CAPACITIVE CIRCUITS	5	5	0
D 209 D1=25 DO YOU CALCULATE TOTAL IMPEDANCE FOR SERIES RCL CIRCUITS	8	9	0
D 210 D1=26 DO YOU CALCULATE IMPEDANCE ANGLES FOR SERIES RCL CIRCUITS	2	3	0
D 211 D1=27 DO YOU CALCULATE APPARENT POWER (PA) FOR SERIES RCL CIRCUITS	3	3	0
D 212 D1=28 DO YOU CALCULATE TRUE POWER (PT) FOR SERIES RCL CIRCUITS	3	3	0
D 213 D1=29 DO YOU CALCULATE POWER FACTORS (PF) FOR SERIES RCL CIRCUITS	2	3	0
D 214 D1=30 DO YOU CALCULATE TOTAL CURRENT FOR PARALLEL RCL CIRCUITS	10	9	0
D 215 D1=31 DO YOU CALCULATE IMPEDANCE ANGLES FOR PARALLEL RCL CIRCUITS	2	3	0
D 216 D1=32 DO YOU CALCULATE TOTAL IMPEDANCE FOR PARALLEL RCL CIRCUITS USING THE ASSUMED VOLTAGE METHOD	6	5	0
D 217 D1=33 DO YOU CALCULATE TOTAL IMPEDANCE FOR PARALLEL RCL CIRCUITS USING OHM'S LAW	11	11	0
D 218 D1=34 DO YOU CHECK CAPACITORS USING OMMETERS	30	30	0
D 219 D1=35 DO YOU CHECK CAPACITORS USING SUBSTITUTION	26	26	0
D 220 D1=36 DO YOU CHECK INDUCTORS USING OMMETERS	25	25	0
D 221 D1=37 DO YOU CHECK INDUCTORS USING SUBSTITUTION	19	18	0
D 222 D1=38 DO YOU USE OR REFER TO THE GENERAL RULE THAT THETA = 0, PF = 1, AND PA = PT FOR RESONANT CIRCUITS	1	1	0
D 223 D1=39 DO YOU CALCULATE RESONANT FREQUENCIES FOR RCL CIRCUITS	5	4	0
D 224 D1=40 DO YOU USE OR REFER TO THE GENERAL RULE THAT IMPEDANCE IS MINIMUM AND CURRENT MAXIMUM AT THE RESONANT FREQUENCY FOR SERIES RCL CIRCUITS	7	7	0
D 225 D1=41 DO YOU USE OR REFER TO THE GENERAL RULE THAT LINE CURRENT IS MINIMUM AND IMPEDANCE MAXIMUM AT RESONANT FREQUENCY FOR PARALLEL RCL CIRCUITS	9	9	0
D 226 D1=42 DO YOU USE OR REFER TO THE GENERAL RULE THAT HALF POWER POINTS ARE AT 70.7 PERCENT OF THE PEAK CURRENT VALUE	6	6	0
D 227 D1=43 DO YOU USE OR REFER TO THE GENERAL RULE THAT BANDWIDTH IS INVERSELY PROPORTIONAL TO Q	2	2	0
D 228 D1=44 DO YOU DETERMINE HOW CHANGES IN FREQUENCY, RESISTANCE, CAPACITANCE, OR INDUCTANCE WILL AFFECT CURRENT OR PHASE ANGLES FOR RCL CIRCUITS	9	9	0

TASK GROUP SUMMARY

U 229 02-01 IN YOUR PRESENT JC1 DO YOU WORK WITH USE, OR REFER TO SERIES OR PARALLEL RESONANT CIRCUITS ON TIME CONSTANT CHARTS
U 230 02-02 DO YOU WORK WITH USE, OR REFER TO TIME CONSTANTS
U 231 02-03 DO YOU WORK WITH USE, OR REFER TO AVAILABLE VOLTAGES
U 232 02-04 DO YOU WORK WITH USE, OR REFER TO TRANSIENT INTERVALS
U 233 02-05 DO YOU USE OR REFER TO THE GENERAL RULE THAT A CAPACITOR IS FULLY CHARGED (OR DISCHARGED) AFTER FIVE 15 TIME CONSTANTS (TC)
D 234 02-06 DO YOU USE OR REFER TO UNIVERSAL TIME CONSTANT CHARTS
D 235 02-07 DO YOU USE EQUATIONS OR FORMULAS TO DETERMINE CIRCUIT CURRENT OR COMPONENT VOLTAGES AFTER A SPECIFIC TIME FOR RC OR LR CIRCUITS
U 236 02-08 DO YOU USE EQUATIONS OR FORMULAS TO DETERMINE THE TIME REQUIRED FOR CIRCUIT CURRENT OR COMPONENT VOLTAGES TO REACH SPECIFIC VALUES FOR AC OR LR CIRCUITS
D 237 02-09 DO YOU USE EQUATIONS OR FORMULAS TO DETERMINE COMPONENT VALUES REQUIRED FOR CIRCUIT CURRENT AND COMPONENT VOLTAGES TO REACH SPECIFIC VALUES IN SPECIFIC TIMES
U 238 02-10 DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT IN LR CIRCUITS REACHES ITS MINIMUM VALUE (OR ZERO) AFTER FIVE 15 TIME CONSTANTS
D 239 03-01 DO YOU WORK WITH CIRCUITS USED AS FILTERS IN YOUR PRESENT JOB
U 240 03-02 DO YOU INSPECT FILTER CIRCUITS
D 241 03-03 DO YOU CLEAN FILTER CIRCUITS
D 242 03-04 DO YOU ALIGN OR ADJUST FILTER CIRCUITS
D 243 03-05 DO YOU TROUBLESHOOT TO THE FILTER CIRCUIT LEVEL
U 244 03-06 DO YOU TROUBLESHOOT TO COMPONENT PARTS
D 245 03-07 DO YOU REMOVE OR REPLACE THE COMPLETE FILTER CIRCUIT
D 246 03-08 DO YOU REMOVE OR REPLACE FILTER CIRCUIT COMPONENT PARTS
U 247 03-19 DO YOU WORK WITH LOW PASS FILTERS
U 248 03-10 DO YOU WORK WITH HIGH PASS FILTERS
D 249 03-11 DO YOU WORK WITH BANDPASS FILTERS
D 250 03-12 DO YOU WORK WITH BAND-REJECT FILTERS
D 251 03-13 DON'T REMEMBER WHICH TYPE OF FILTER YOU WORK WITH
D 252 03-14 DO YOU WORK WITH L-SECTION FILTER CONFIGURATION
D 253 03-15 DO YOU WORK WITH T-SECTION FILTER CONFIGURATION
D 254 03-16 DO YOU WORK WITH PI-SECTION FILTER CONFIGURATION
D 255 03-17 DON'T REMEMBER WHICH TYPE FILTER CONFIGURATION
D 256 03-18 DO THE FILTERS YOU WORK WITH USE PARALLEL RESONANT CIRCUITS
U 257 03-19 DO THE FILTERS YOU WORK WITH USE SERIES-PARALLEL CIRCUITS
D 258 03-20 DO THE FILTERS YOU WORK WITH USE SERIES RESONANT CIRCUITS

PCT MARS RESPONDING (YES) BY SELECTED GRPS
 TASK GROUP SUMMARY
 PERCENT MEMBERS PERFORMING

GPSUM1 PAGE 11

JOY-TASK	SPC C01	SPC C02	SPC C03
E 259 C3-21 DON'T REMEMBER WHICH TYPE OF BASIC CIRCUIT U 260 U3-22 DO YOU USE EQUATIONS OR FORMULAS TO DETERMINE CAPACITANCE OR INDUCTANCE VALUES REQUIRED FOR SPECIFIC FILTERS	10 10	9 9	0 0
E 261 E1-01 DO YOU WORK WITH COUPLING DEVICES IN YOUR PRESENT JOB	29	23	0
E 262 E1-02 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH RC COUPLING	28	26	0
E 263 E1-03 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH IMPEDANCE COUPLING	19	19	0
E 264 E1-04 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH TRANSFORMER COUPLING	27	26	0
E 265 E1-05 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM HC COUPLING	27	26	0
E 266 E1-06 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM IMPEDANCE COUPLING	19	17	0
E 267 E1-07 UG YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM TRANSFORMER COUPLING	25	24	0
E 268 E1-08 DO YOU WORK WITH DIRECTLY COUPLED CIRCUITS	25	25	0
E 269 E1-09 DO YOU WORK WITH CAPACITIVE-RESISTIVE COUPLED CIRCUITS	24	24	0
E 270 E1-10 DO YOU WORK WITH CAPACITIVE-INDUCTIVE COUPLED CIRCUITS	17	17	0
E 271 E1-11 DO YOU WORK WITH TRANSFORMER COUPLED CIRCUITS	24	24	0
E 272 E1-12 DON'T REMEMBER WHICH TYPE OF COUPLING CIRCUITS	7	6	0
E 273 E2-01 IN YOUR PRESENT JOB, DO YOU PERFORM SOLDERING TECHNIQUES OR INSPECT OR EVALUATE SOLDERED CONNECTIONS	50	48	50
E 274 E2-02 DO YOU SELECT TYPE OF SOLDER TO USE	41	40	50
E 275 E2-03 DO YOU ADD FLUX TO CONNECTIONS	41	42	50
E 276 E2-04 DO YOU CLEAN CONNECTIONS USING SOLVENTS	41	40	50
E 277 E2-05 DO YOU STRIP INSULATION FROM WIRES	52	50	50
E 278 E2-06 DO YOU CONNECT OR DISCONNECT HEAT SINKS	47	46	50
E 279 E2-07 DO YOU BEND OR SHAPE WIRES OR LEADS	52	50	50
E 280 E2-08 DO YOU CUT WIRES	52	50	50
E 281 E2-09 DO YOU FILE OR SHAPE SOLDERING IRON TIPS	43	42	50
E 282 E2-10 DO YOU TIN SOLDERING IRON TIPS	52	50	50
E 283 E2-11 DO YOU CLEAN SOLDERING IRON TIPS	52	50	50
E 284 E2-12 DO YOU CLEAN ELECTRICAL SURFACES USING ERASERS	42	41	50
E 285 E2-13 DO YOU TIN ON PRE-TIN CONDUCTORS	51	50	50
E 286 E2-14 DO YOU INSPECT SOLDERED CONNECTIONS	52	50	50
E 287 E2-15 DO YOU DESOLDER CONNECTIONS BY WICING	33	32	50
E 288 E2-16 DO YOU DESOLDER CONNECTIONS USING VACUUM DESOLDERING TOOLS	49	48	50
E 289 E2-17 DO YOU CUT COMPONENT LEADS TO REMOVE COMPONENTS	50	49	50
E 290 E2-18 DO YOU CRUSH COMPONENTS FOR REMOVAL	20	21	0

PCT MEMS RESPONDING *YES* BY SELECTED GRPS
 TASK GROUP SUMMARY
 PERCENT MEMBERS PERFORMING

GPSUMI PAGE 12

	DYNAMIC		STATIC		SPC		SPC	
	001	002	001	002	001	002	001	002
E 291 E2-19 DO YOU MAKE HARDWIRE CONNECTIONS	50	47	100					
E 292 E2-20 DO YOU MAKE PRINTED CIRCUIT BOARD CONNECTIONS	50	48	100					
E 293 E2-21 DO YOU SOLDER PASSIVE COMPONENTS SUCH AS RESISTORS OR CAPACITORS ON PRINTED CIRCUIT BOARDS	50	48	50					
E 294 E2-22 DO YOU SOLDER ACTIVE COMPONENTS SUCH AS SOLID-STATE DIODES OR TRANSISTORS ON PRINTED CIRCUIT BOARDS	47	45	100					
E 295 E3-01 DO YOU WORK WITH RELAYS ON YOUR PRESENT JOB	50	49	0					
E 296 E3-02 DO YOU ADJUST RELAYS	23	24	0					
E 297 E3-03 DO YOU CLEAN RELAYS	36	37	0					
E 298 E3-04 DO YOU INSPECT RELAYS	46	47	0					
E 299 E3-05 DO YOU REMOVE OR REPLACE COMPLETE RELAYS	50	50	0					
E 300 E3-06 DO YOU REMOVE OR REPLACE PARTS OR RELAYS	23	23	0					
E 301 E3-07 DO YOU TROUBLESHOOT RELAYS	46	46	0					
E 302 E3-08 DO YOU STRAIGHTEN RELAY CONTACTS	32	32	0					
E 303 E3-09 DO YOU PERFORM TASKS ON RELAY CONTACTS	31	32	0					
E 304 E3-10 DO YOU PERFORM TASKS ON RELAY CORES	11	12	0					
E 305 E3-11 DO YOU PERFORM TASKS ON RELAY COILS	15	16	0					
E 306 E3-12 DO YOU PERFORM TASKS ON RELAY ARMATURES	21	22	0					
E 307 E3-13 DO YOU PERFORM TASKS ON RELAY SPRINGS	25	26	0					
E 308 E3-14 DO YOU USE OR REFER TO SINGLE POLE, SINGLE THROU (SPST) NORMALLY OPEN (NO) SCHEMATIC SYMBOLS FOR RELAYS	39	38	0					
E 309 E3-15 DO YOU USE OR REFER TO SINGLE POLE, SINGLE THROU (SPST), NORMALLY CLOSED (NC) SCHEMATIC SYMBOLS FOR RELAYS	40	39	0					
E 310 E3-16 DO YOU USE OR REFER TO SINGLE POLE, DOUBLE THROU (SPDT) SCHEMATIC SYMBOLS FOR RELAYS	39	38	0					
E 311 E3-17 DO YOU USE OR REFER TO DOUBLE POLE, DOUBLE THROU (DPDT) SCHEMATIC SYMBOLS FOR RELAYS	41	40	0					
E 312 E3-18 DO YOU USE OR REFER TO OTHER RELAY SYMBOLS SCHEMATIC SYMBOLS FOR RELAYS	40	39	0					
E 313 E3-19 DO YOU CHECK ELECTRICAL CONTINUITY OF COILS BY MEASURING RESISTANCE	45	44	0					
F 314 F1-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS DEALING WITH MICROPHONES	69	68	50					
F 315 F1-02 DO YOU INSPECT MICROPHONES	50	50	50					
F 316 F1-03 DO YOU CLEAN MICROPHONES	45	45	50					
F 317 F1-04 DO YOU OPERATE MICROPHONES	67	68	50					
F 318 F1-05 DO YOU TROUBLESHOOT AS FAM AS CHECKING WIRE CONNECTIONS BUT DO NOT TROUBLESHOOT DOWN TO COMPONENT PARTS OR MICROPHONES	45	44	50					
F 319 F1-06 DO YOU TROUBLESHOOT DOWN TO MICROPHONE PARTS	24	24	0					
F 320 F1-07 DO YOU REMOVE OR REPLACE COMPLETE MICROPHONES	30	49	50					
F 321 F1-08 DO YOU REMOVE OR REPLACE MICROPHONE PARTS	21	21	0					
F 322 F1-09 DO YOU PERFORM TASKS ON CARBON MICROPHONES	29	28	0					
F 323 F1-10 DO YOU PERFORM TASKS ON CAPACITOR MICROPHONES	6	6	0					
F 324 F1-11 DO YOU PERFORM TASKS ON CRYSTAL MICROPHONES	15	15	50					
F 325 F1-12 DO YOU PERFORM TASKS ON DYNAMIC MICROPHONES	26	25	0					
F 326 F1-13 DO YOU PERFORM TASKS ON VELOCITY RIBBON MICROPHONES	2	1	0					

PCT MBR'S RESPONDING *YES* BY SELECTED GRPS
 TASK GROUP SUMMARY
 PERCENT MEMBERS PERFORMING

GPSUM: PAGE 13

		SPC 001	SPC 002	SPC 003	SPC 004
C.Y.TSK.					
F 321 F2=01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS DEALING WITH SPEAKERS		38	37	100	
F 326 F2=02 DO YOU INSPECT SPEAKERS		33	31	100	
F 329 F2=03 DO YOU CLEAN SPEAKERS		24	22	100	
F 330 F2=04 DO YOU OPERATE SPEAKERS		36	35	100	
F 331 F2=05 DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS BUT DO NOT TROUBLESHOOT DOWN TO COMPONENT PARTS OF SPEAKERS		30	30	50	
F 332 F2=06 DO YOU TROUBLESHOOT DOWN TO SPEAKER PARTS		13	13	50	
F 333 F2=07 DO YOU REMOVE OR REPLACE COMPLETE SPEAKERS		33	31	100	
F 334 F2=08 DO YOU REMOVE OR REPLACE SPEAKER PARTS		6	4	100	
F 335 F2=09 DO YOU PERFORM ANY TASKS ON SPEAKER CONES		3	3	0	
F 336 F2=10 DO YOU PERFORM ANY TASKS ON SPEAKER SPIDERS		2	2	0	
F 337 F2=11 DO YOU PERFORM ANY TASKS ON SPEAKER FIELD COILS		2	3	0	
F 338 F2=12 DO YOU PERFORM ANY TASKS ON SPEAKER VOICE COILS		4	4	0	
F 339 F2=13 DO YOU PERFORM ANY TASKS ON SPEAKER PERMANENT MAGNETS		3	3	0	
F 340 F2=14 DO YOU PERFORM ANY TASKS ON SPEAKER ELECTROMAGNETS		3	3	0	
F 341 F2=15 DO YOU PERFORM ANY TASKS ON SPEAKER SOFT IRON CORES		2	2	0	
F 342 F3=01 DO YOU USE OSCILLOSCOPES IN YOUR PRESENT JOB		45	43	100	
F 343 F3=02 DO YOU USE OSCILLOSCOPES TO PERFORM OPERATIONAL CHECKS		41	38	100	
F 344 F3=03 DO YOU USE OSCILLOSCOPES TO PERFORM ALIGNMENTS OR ADJUSTMENTS		42	40	100	
F 345 F3=04 DO YOU USE OSCILLOSCOPES TO TROUBLESHOOT ELECTRONIC CIRCUITS		43	41	100	
F 346 F3=05 DO YOU USE OSCILLOSCOPES TO MEASURE FREQUENCY		33	30	100	
F 347 F3=06 DO YOU USE OSCILLOSCOPES TO MEASURE TIME		23	21	100	
F 348 F3=07 DO YOU USE OSCILLOSCOPES TO OBSERVE LISAJOUS PATTERNS		20	19	50	
F 349 F3=08 DO YOU USE OSCILLOSCOPES TO OBSERVE SIGNALS WHILE UTILIZING ATTENUATOR PROBES		31	29	100	
F 350 F3=09 DO YOU USE OSCILLOSCOPES TO MAKE FREQUENCY OR TIME MEASUREMENTS USING DELAY TIME MULTIPLIERS		23	21	100	
F 351 F3=10 DO YOU USE OSCILLOSCOPES TO MEASURE AC VOLTAGE		36	34	100	
F 352 F3=11 DO YOU USE OSCILLOSCOPES TO MEASURE OR OBSERVE SIGNALS AFTER FIRST ADJUSTING THE GAIN AND DC HAL CONTROLS		32	29	100	
F 353 F3=12 DO YOU USE OSCILLOSCOPES TO MEASURE DC VOLTAGE		36	34	100	
G 354 G1=01 DO YOU WORK WITH SEMICONDUCTOR DIODES		41	41	0	
G 355 G1=02 DO YOU INSPECT DIODES		41	39	100	
G 356 G1=03 DO YOU REMOVE OR REPLACE DIODES		43	41	100	
G 357 G1=04 DO YOU CHECK DIODES USING AN INSTRUMENT		38	37	50	
G 358 G1=05 DO YOU USE ENERGY LEVEL DIAGRAMS IN YOUR WORK WITH DIODES		2	3	0	
G 359 G1=06 DO YOU USE PIN JUNCTION DIODE CHARACTERISTIC CURVES, TOGETHER WITH VALUES OF FORWARD AND REVERSE BIAS VOLTAGE, TO COMPUTE FORWARD OR REVERSE BIAS RESISTANCE FOR DIODES		7	6	100	
G 360 G1=07 DO YOU COMPUTE FORWARD OR REVERSE BIAS RESISTANCE FOR DIODES		11	10	100	

PCT MARKS RESPONSIBILITY BY SELECTED GRPS

GPSUMI PAGE 14

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

Q	Y=TSK	SPC 001	SPC 002	SPC 003
4 361	G1=12 DO YOU USE OR REFER TO THE GENERAL RULE THAT TEMPERATURE CAN AFFECT THE OPERATION OF DIODES	31	30	100
4 362	G1=19 DO YOU IDENTIFY SEMICONDUCTOR DIODES AS OPPOSED TO OTHER ELECTRONIC COMPONENTS, SUCH AS RESISTORS, BASED ON THEIR PHYSICAL APPEARANCE	39	38	50
4 363	G1=10 DO YOU REFER TO OR DO YOU DETERMINE THE GENERAL EFFECTS OF DOPING ON CURRENT FLOW	11	11	50
4 364	G1=11 DO YOU USE OR REFER TO MEASUREMENTS OF FORWARD BIAS RESISTANCE	20	19	100
4 365	G1=12 DO YOU USE OR REFER TO DIODE COLOR CODING	23	22	0
4 366	G1=12 DO YOU USE OR REFER TO CENTRIFUGAL FORCE OF AN ELECTRON IN ORBIT AROUND A NUCLEUS	2	3	0
4 367	G1=14 DO YOU USE OR REFER TO CENTRIPETAL FORCE OF AN ELECTRON IN ORBIT AROUND A NUCLEUS	2	3	0
4 368	G1=15 DO YOU USE OR REFER TO DIODE NUMBERING SYSTEM, SUCH AS IN 518	14	32	100
4 369	G1=16 DO YOU USE OR REFER TO KINETIC ENERGY OF AN ELECTRON AS IN 518	2	3	0
4 370	G1=17 DO YOU USE OR REFER TO POTENTIAL ENERGY OF AN ELECTRON MOVING IN ORBIT	2	3	0
4 371	G1=18 DO YOU USE OR REFER TO MEASUREMENTS OF REVERSE BIAS RESISTANCE	20	19	50
4 372	G1=19 DO YOU USE OR REFER TO NUMBER OF ELECTRONS IN A PARTICULAR SHELL OR ORBIT	3	3	0
4 373	G1=20 DO YOU USE OR REFER TO PERMISSIBLE ENERGY LEVELS OF AN ORBITING ELECTRON	2	3	0
4 374	G1=21 DO YOU USE OR REFER TO FORBIDDEN ENERGY LEVELS OF AN ORBITING ELECTRON	2	3	0
4 375	G1=22 DO YOU USE OR REFER TO VALENCE ELECTRONS (THOSE IN THE OUTERMOST SHELL)	4	4	0
4 376	G1=23 DO YOU USE OR REFER TO ATOMIC NUMBER (TOTAL NUMBER OF ELECTRONS IN ATOM)	3	3	0
4 377	G1=24 DO YOU USE OR REFER TO SYMBOLS ON THE DIODE WHICH INDICATE THE CATHODE END	37	35	100
4 378	G1=25 DO YOU NEED TO KNOW WHICH MATERIALS ARE USED IN THE CONSTRUCTION OF DIODES SUCH AS GERMANIUM OR SILICON	14	13	0
4 379	G1=26 DO YOU NEED TO KNOW THAT SEMICONDUCTORS HAVE NEGATIVE TEMPERATURE COEFFICIENTS OF RESISTANCE (AS TEMPERATURE INCREASES, RESISTANCE DECREASES)	14	17	100
4 380	G1=27 DO YOU USE OR REFER TO PN JUNCTION DIODE CHARACTERISTIC CURVES, SUCH AS VOLTAGE = CURRENT CHARACTERISTIC CURVES (PERHAPS YOU DO THIS TO IDENTIFY POINTS OF STRUCTURAL BREAKDOWN OR OPERATING REGIONS)	7	5	100
4 381	G1=28 DO YOU DETERMINE WHETHER PN JUNCTION DIODES ARE FORWARD BIASED OR REVERSE BIASED WHEN YOU READ OR INTERPRET CIRCUIT DIAGRAMS	26	26	100
4 382	G1=29 DO YOU USE OR REFER TO VALENCE BAND IN SEMICONDUCTOR MATERIALS	4	4	0

PCT WORKS RESPONDING 'YES' BY SELECTED GRPS
 TASK GROUP SUMMARY
 PERCENT MEMBERS PERFORMING

GPSUM1 PAGE 15

		SPC 001	SPC 002	SPC 003
DY-TSK				
G 363	G1-30 DO YOU USE OR REFER TO FORBIDDEN BAND IN SEMICONDUCTOR MATERIALS	4	4	0
G 384	G1-31 DO YOU USE OR REFER TO CONDUCTION BAND IN SEMICONDUCTOR MATERIALS	6	6	0
G 385	G1-32 DO YOU USE OR REFER TO COVALENT BONDING IN SEMICONDUCTOR MATERIALS	3	3	0
G 386	G1-33 DO YOU USE OR REFER TO ELECTRON-HOLE PAIR CREATED IN SEMICONDUCTORS	4	4	0
G 387	G1-34 DO YOU USE OR REFER TO ELECTRON FLOW OR HOLE FLOW IN SEMICONDUCTORS	14	13	0
G 388	G1-35 DO YOU USE OR REFER TO DONOR IMPURITY IN SEMICONDUCTORS	5	5	0
G 389	G1-36 DO YOU USE OR REFER TO ACCEPTOR IMPURITY IN SEMICONDUCTORS	5	5	0
G 390	G1-37 DO YOU USE OR REFER TO P-TYPE SEMICONDUCTOR MATERIAL	15	15	0
G 391	G1-38 DO YOU USE OR REFER TO N-TYPE SEMICONDUCTOR MATERIAL	15	15	0
G 392	G1-39 DO YOU USE OR REFER TO MAJORITY CARRIERS IN SEMICONDUCTORS	7	6	0
G 393	G1-40 DO YOU USE OR REFER TO MINORITY CARRIERS IN SEMICONDUCTORS	7	6	0
G 394	G1-41 DO YOU USE OR REFER TO JUNCTION RECOMBINATION IN SEMICONDUCTORS	5	5	0
G 395	G1-42 DO YOU USE OR REFER TO DEPLETION REGION IN SEMICONDUCTORS	0	0	0
G 396	G1-43 DO YOU USE OR REFER TO RELATIONSHIP BETWEEN BARRIER WIDTH AND DIFFERENCE OF POTENTIAL	7	7	0
G 397	G1-44 DO YOU USE OR REFER TO THE IC11 BACK TO FRONT RESISTANCE RATIO FOR DIODES	15	15	0
G 398	G1-45 DO YOU USE OR REFER TO BARRIER HEIGHT IN SEMICONDUCTORS	4	4	0
G 399	G1-46 DO YOU USE OR REFER TO DIODE SUBSTITUTION INFORMATION	22	22	0
G 400	G1-47 DO YOU USE OR REFER TO MAXIMUM AVERAGE FORWARD CURRENT DIODE RATINGS	15	15	0
G 401	G1-48 DO YOU USE OR REFER TO PEAK RECURRENT FORWARD CURRENT DIODE RATINGS	15	15	0
G 402	G1-49 DO YOU USE OR REFER TO MAXIMUM SURGE CURRENT DIODE RATINGS	15	15	0
G 403	G1-50 DO YOU USE OR REFER TO PEAK REVERSE (INVERSE) VOLTAGE DIODE RATINGS	16	17	0
G 404	G2-01 DO YOU WORK WITH TRANSISTORS IN YOUR PRESENT JOB.	43	42	100
G 405	G2-02 DO YOU INSPECT TRANSISTORS	39	38	100
G 406	G2-03 DO YOU REMOVE OR REPLACE TRANSISTORS	44	43	100
G 407	G2-04 DO YOU CHECK TRANSISTORS USING AN INSTRUMENT	39	38	50
G 408	G2-05 DO YOU USE OR REFER TO Emitter = Base (EB) FORWARD AND REVERSE RESISTANCE MEASUREMENTS	33	32	100
G 409	G2-06 DO YOU USE OR REFER TO COLLECTOR = BASE (CB) FORWARD AND REVERSE RESISTANCE MEASUREMENTS	35	34	100

PCT MEMBERS RESPONDING (YES) BY SELECTED GRPS
TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

GPSUM1 PAGE 16

DYN-TSK	SPC		SPC	
	001	002	003	004
4 410 G2=07 DO YOU USE OR REFER TO Emitter = COLLECTOR (EC)	35	34	100	
4 411 G2=08 DO YOU USE OR REFER TO HOW BIASING AFFECTS THE RESISTANCE MEASUREMENTS	15	15	50	
4 412 G2=09 DO YOU USE OR REFER TO THE Emitter = BASE JUNCTION PHYSICAL BARRIER (BOTH OF THE Emitter = BASE JUNCTION)	15	15	50	
4 413 G2=10 DO YOU USE OR REFER TO HOW BIASING AFFECTS THE PHYSICAL BARRIER (BOTH OF THE COLLECTOR = BASE JUNCTION)	24	23	50	
4 414 G2=11 DO YOU USE OR REFER TO THE PHYSICAL SIZE OF THE TRANSISTOR STRUCTURE (COLLECTOR, BASE AND Emitter)	15	15	50	
4 415 G2=12 DO YOU USE OR REFER TO TRANSISTOR SCHEMATIC SYMBOLS	41	41	50	
4 416 G2=13 DO YOU USE OR REFER TO TRANSISTOR NOTATION SUCH AS Q1, Q2, Q3, ETC	41	41	50	
4 417 G2=14 DO YOU USE OR REFER TO TRANSISTOR SUBSTITUTION INFORMATION	28	28	50	
4 418 G2=15 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE TRANSISTOR BASE CURRENT IS NORMALLY SIGNIFICANTLY SMALLER THAN THE Emitter CURRENT IF IT IS BEING 2 TO 8 PERCENT OF IT	15	15	50	
4 419 G2=16 DO YOU USE THE INFORMATION THAT THE EFFECT OF Emitter BASE VOLTAGE ON BASE CURRENT IS THE CONTROLLING FACTOR FOR TRANSISTORS	23	21	50	
4 420 G2=17 DO YOU USE THE GENERAL RULE THAT LEAKAGE CURRENT INCREASES AS TEMPERATURE INCREASES	15	15	50	
4 421 G2=18 DO YOU USE OR REFER TO TRANSISTOR CHARACTERISTIC CURVES	11	9	50	
4 422 G2=19 DO YOU USE OR REFER TO ALPHA TRANSISTOR GAINS	11	9	50	
4 423 G2=20 DO YOU USE OR REFER TO GAMMA TRANSISTOR GAINS	9	9	50	
4 424 G2=21 DO YOU USE OR REFER TO GAMMA TRANSISTOR GAINS	8	8	50	
4 425 G2=22 DO YOU CALCULATE BETA TRANSISTOR GAINS	7	7	50	
4 426 G2=23 DO YOU CALCULATE ALPHA TRANSISTOR GAINS	7	7	50	
4 427 G2=24 DO YOU CALCULATE GAMMA TRANSISTOR GAINS	37	35	100	
4 428 G2=01 DO YOU WORK WITH TRANSISTOR AMPLIFIERS IN YOUR PRESENT JOB	36	34	100	
4 429 G2=02 DO YOU INSPECT TRANSISTOR AMPLIFIERS	36	34	100	
4 430 G2=03 DO YOU ALIGN OR ADJUST TRANSISTOR AMPLIFIERS	36	34	100	
4 431 G2=04 DO YOU TROUBLESHOOT TO THE AMPLIFIER CIRCUIT LEVEL	36	34	100	
4 432 G2=05 DO YOU TROUBLESHOOT TO AMPLIFIER COMPONENTS	35	33	100	
4 433 G2=06 DO YOU REMOVE OR REPLACE THE COMPLETE AMPLIFIER	37	35	100	
4 434 G2=07 DO YOU REMOVE OR REPLACE AMPLIFIER COMPONENTS	35	33	100	
4 435 G2=08 DO YOU USE OR REFER TO (COMMON Emitter) THE CHANGE IN COLLECTOR CURRENT WHICH RESULTS FROM A CHANGE IN BASE CURRENT	11	9	100	
4 436 G2=09 DO YOU USE OR REFER TO (COMMON Emitter) THE CALCULATIONS NECESSARY TO MEASURE THE SPECIFIC CHANGE IN COLLECTOR CURRENT WHICH RESULTS FROM A SPECIFIC CHANGE IN BASE CURRENT	9	8	100	

PCT MEMBERS RESPONDING *YES* BY SELECTED GRPS
 TASK GROUP SUMMARY
 PERCENT MEMBERS PERFORMING

GPSUMI PAGE 17

	07-75A	SPC 001	SPC 002	SPC 003
6 437 G3=10 DO YOU USE OR REFER TO (COMMON Emitter) THE CHANGE IN COLLECTOR VOLTAGE WHICH RESULTS FROM A CHANGE IN BASE CURRENT	11	9	100	
6 438 G3=11 DO YOU USE OR REFER TO (COMMON Emitter) THE CALCULATIONS NECESSARY TO MEASURE THE SPECIFIC CHANGE IN COLLECTOR VOLTAGE WHICH RESULTS FROM A SPECIFIC CHANGE IN BASE CURRENT	9	8	100	
6 439 G3=12 DO YOU USE OR REFER TO (COMMON Emitter) THE CHANGE IN BASE CURRENT WHICH RESULTS FROM AN INPUT SIGNAL	13	11	100	
6 440 G3=13 DO YOU USE OR REFER TO (COMMON Emitter) THE CALCULATIONS NECESSARY TO MEASURE THE SPECIFIC CHANGE IN BASE CURRENT WHICH RESULTS FROM A SPECIFIC INPUT SIGNAL	8	7	100	
6 441 G3=14 DO YOU USE THE LOAD-LINE METHOD OF ANALYSIS IN YOUR CIRCUIT ANALYSIS (THIS METHOD REQUIRES YOU TO PLOT A LOAD-LINE ON A TRANSISTOR CHARACTERISTIC CURVE)	3	3	0	
6 442 G3=15 DO YOU USE OR REFER TO THE OPERATING POINT Q (QUIESCENT POINT) FOR A TRANSISTOR	6	6	0	
6 443 G3=16 DO YOU CALCULATE THE SPECIFIC QUIESCENT POINT FOR A PARTICULAR TRANSISTOR	2	3	0	
6 444 G3=17 DO YOU MEASURE VOLTAGE GAIN USED IN THE COMMON Emitter Configuration	21	19	100	
6 445 G3=18 DO YOU MEASURE CURRENT GAIN USED IN THE COMMON Emitter Configuration	14	12	100	
6 446 G3=19 DO YOU MEASURE POWER GAIN USED IN THE COMMON Emitter Configuration	12	10	100	
6 447 G3=20 DO YOU CALCULATE THE VOLTAGE GAIN FOR SPECIFIC TRANSISTORS USING A FORMULA THAT IS, DO YOU DIVIDE THE CHANGE IN BASE-EMITTER VOLTAGE INTO THE CHANGE THE BASE COLLECTOR VOLTAGE TO DETERMINE THE VOLTAGE GAIN	4	4	0	
6 448 G3=21 DO YOU CALCULATE THE CURRENT GAIN FOR SPECIFIC TRANSISTORS USING A FORMULA THAT IS, DO YOU DIVIDE THE CHANGE IN BASE CURRENT INTO THE CHANGE IN COLLECTOR CURRENT TO DETERMINE THE CURRENT GAIN	3	3	0	
6 449 G3=22 DO YOU CALCULATE THE POWER GAIN FOR A SPECIFIC TRANSISTOR USING A FORMULA THAT IS, DO YOU MULTIPLY THE CURRENT GAIN TIMES THE VOLTAGE GAIN TO DETERMINE THE POWER GAIN	3	3	0	
6 450 G3=23 DO YOU NEED TO KNOW THAT MORE COLLECTOR CURRENT IS GENERATED WITH LESS COLLECTOR VOLTAGE AS TEMPERATURE INCREASES, THIS AFFECTS THE STATIC OPERATING POINT LG2 OF THE TRANSISTOR	3	3	0	
6 451 G3=24 DO YOU COMPUTE THE STATIC OPERATING POINT (Q1) OF A TRANSISTOR AT DIFFERENT TEMPERATURES	2	2	0	
6 452 G3=25 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH Emitter (Swapping) Resistor STABILIZATION	14	12	50	
6 453 G3=26 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH SELF-BIAS STABILIZATION	13	11	50	

PCT MEMBERS RESPONDING *YES* BY SELECTED GRPS
 TASK GROUP SUMMARY
 PERCENT MEMBERS PERFORMING

APPENDIX PAGE 18

ITEM	PCT	SPC		SPC	
		SPC 001	SPC 002	SPC 003	SPC 004
6 454 G3-27 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH THE TRANSISTOR STABILIZATION	6	5	0	0	0
6 455 G3-28 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH FORWARD BIAS DIODE STABILIZATION	11	11	0	0	0
6 456 G3-29 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH REVERSE BIAS DIODE STABILIZATION	10	10	0	0	0
6 457 G3-30 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH DOUBLE DIODE STABILIZATION	8	8	50	0	0
G 458 G3-31 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM EMMITTER ISWAMPING, RESISTOR STABILIZATION	15	13	50	0	0
G 459 G3-32 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM SELF-BIAS STABILIZATION	11	9	50	0	0
G 460 G3-33 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM TRANSISTOR STABILIZATION	7	6	0	0	0
G 461 G3-34 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM FORWARD BIAS DIODE STABILIZATION	12	13	0	0	0
G 462 G3-35 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM REVERSE BIAS DIODE STABILIZATION	11	12	0	0	0
G 463 G3-36 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM DOUBLE DIODE STABILIZATION	6	8	50	0	0
G 464 G3-37 DO YOU IDENTIFY AMPLITUDE DISTORTION FOR TRANSISTOR CIRCUITS	11	9	50	0	0
G 465 G3-38 DO YOU TROUBLESHOOT TRANSISTOR CIRCUITS TO FIND THE CAUSES OF AMPLITUDE DISTORTION	11	9	50	0	0
G 466 G3-39 DO YOU IDENTIFY FREQUENCY DISTORTION FOR TRANSISTOR CIRCUITS	5	4	0	0	0
G 467 G3-40 DO YOU IDENTIFY PHASE DISTORTION FOR TRANSISTOR CIRCUITS	4	3	0	0	0
G 468 G3-41 DO YOU TROUBLESHOOT TRANSISTOR CIRCUITS TO FIND THE CAUSES OF PHASE DISTORTION	5	4	0	0	0
G 469 G3-42 DO YOU TROUBLESHOOT TRANSISTOR CIRCUITS TO FIND THE CAUSES OF FREQUENCY DISTORTION	3	3	0	0	0
G 470 G3-43 DO YOU NEED TO KNOW THE DEGENERATIVE EFFECTS ON THE CIRCUIT CAUSED BY CHANGING Emitter RESISTANCE FOR TRANSISTOR AMPLIFIERS IN THE COMMON COLLECTOR CONFIGURATION	5	5	0	0	0
G 471 G3-44 DO YOU DETERMINE THE CLASS OF OPERATION FOR AMPLIFIERS IN ORDER TO TROUBLESHOOT AMPLIFIER CIRCUITS	11	10	50	0	0
G 472 G3-45 DO YOU TROUBLESHOOT OR REPAIR PARAPHASE AMPLIFIERS	7	8	0	0	0
G 473 G3-46 DO YOU TROUBLESHOOT OR REPAIR PUSH-PULL AMPLIFIERS	28	26	50	0	0
G 474 G3-47 DO YOU TROUBLESHOOT OR REPAIR COMPLEMENTARY SYMMETRY CIRCUITS	10	9	0	0	0
G 475 G3-48 DO YOU TROUBLESHOOT OR REPAIR COMPOUND-CONNECTED AMPLIFIERS	12	13	0	0	0

PCT WORKS RESPONDING * YES * BY SELECTED GROUPS
 TASK GROUP SUMMARY
 PERCENT MEMBERS PERFORMING

GFSUMI PAGE 19

Q7-TASK		SPC 001	SPC 004	SPC 003
G 476 G3=49 DO YOU TROUBLESHOOT OR REPAIR CASCADE-CONNECTED AMPLIFIERS				
H 477 H1=01 DO YOU USE OR REFER TO VARACTORS	•	6	6	0
H 478 H1=02 DO YOU USE OR REFER TO TUNNEL DIODES	9	9	0	
H 479 H1=03 DO YOU USE OR REFER TO FIELD-EFFECT TRANSISTORS (FET)	24	24	50	SOLID-STATE SPECIAL PURPOSE DEVICES
H 480 H1=04 DO YOU USE OR REFER TO UNIJUNCTION TRANSISTORS	14	13	0	
H 481 H1=05 DO YOU USE OR REFER TO ZENER DIODES	34	32	50	
H 482 H1=06 DO YOU USE OR REFER TO INTEGRATED CIRCUITS	35	33	50	
H 483 H2=01 IN YOUR PRESENT JOB DO YOU WORK WITH POWER SUPPLIES	46	44	50	
H 484 H2=02 DO YOU INSPECT POWER SUPPLIES	46	44	50	
H 485 H2=03 DO YOU CLEAN POWER SUPPLIES	40	39	50	
H 486 H2=04 DO YOU ALIGN OR ADJUST POWER SUPPLIES	46	44	50	
H 487 H2=05 DO YOU TROUBLESHOOT TO POWER SUPPLY CIRCUIT LEVEL	42	40	50	
H 488 H2=06 DO YOU TROUBLESHOOT TO POWER SUPPLY COMPONENTS	41	40	0	
H 489 H2=07 DO YOU REMOVE OR REPLACE COMPLETE POWER SUPPLIES	39	38	50	
H 490 H2=08 DO YOU REMOVE OR REPLACE POWER SUPPLY COMPONENTS	43	42	0	
H 491 H2=09 DO YOU WORK WITH HALF-WAVE RECTIFIERS OTHER THAN	33	32	50	
H 492 H2=10 DO YOU WORK WITH FULL-WAVE RECTIFIERS	39	38	50	
BRIDGE RECTIFIERS				
H 493 H2=11 DO YOU WORK WITH BRIDGE RECTIFIERS	37	36	50	
H 494 H2=12 DO YOU WORK WITH THREE-PHASE RECTIFIERS	21	21	50	
H 495 H2=13 DO YOU USE OR REFER TO INPUT VOLTAGE	42	40	50	POWER SUPPLIES
H 496 H2=14 DO YOU USE OR REFER TO INPUT FREQUENCY	22	21	50	
H 497 H2=15 DO YOU USE OR REFER TO PEAK OUTPUT VOLTAGE	30	28	50	
H 498 H2=16 DO YOU USE OR REFER TO AVERAGE OUTPUT VOLTAGE	32	30	50	
H 499 H2=17 DO YOU USE OR REFER TO RIPPLE AMPLITUDE	23	22	0	
H 500 H2=18 DO YOU USE OR REFER TO RIPPLE FREQUENCY	13	13	0	
H 501 H2=19 DO YOU USE OR REFER TO PEAK REVERSE (INVERSE) VOLTAGE	19	18	0	
H 502 H2=20 DO YOU USE OR REFER TO SHAPE OF OUTPUT WAVEFORMS	28	26	50	
H 503 H2=21 DO YOU USE OR REFER TO EFFECTIVE OUTPUT VOLTAGE	34	32	50	
H 504 H2=22 DO YOU WORK WITH CIRCUITS WHICH EMPLOY CAPACITIVE	35	34	0	
FILTERS				
H 505 H2=23 DO YOU WORK WITH CIRCUITS WHICH EMPLOY INDUCTIVE	28	27	0	
H 506 H2=24 DO YOU WORK WITH CIRCUITS WHICH EMPLOY CAPACITIVE	24	23	0	
H 507 H2=25 DO YOU WORK WITH CIRCUITS WHICH EMPLOY INDUCTIVE	18	19	0	
H 508 H2=26 DO YOU WORK WITH CIRCUITS WHICH EMPLOY LC PI-TYPE	19	17	0	
H 509 H2=27 DO YOU WORK WITH CIRCUITS WHICH EMPLOY RC PI-TYPE	21	21	0	
H 510 H2=28 DO YOU WORK WITH CIRCUITS WHICH EMPLOY DONUT	18	17	50	
H 511 H2=29 DO YOU HAVE THE OPTION OF REPLACING ONE TYPE OF FILTER WITH A DIFFERENT TYPE FILTER	5	4	0	
H 512 H3=01 DO YOU WORK WITH OSCILLATORS IN YOUR PRESENT JOB	26	25	0	OSCILLATORS

PCT HIRLS RESPONDING 'YES' BY SELECTED GRPS
 TASK GROUP SUMMARY
 PERCENT MEMBERS PERFORMING

EPSUM1 PAGE 20

	DY-TSK	SPC		SPC	
		UG1	UG2	UG1	UG2
H 513 H3=02 DC YOU INSPECT OSCILLATORS		24	23	0	
H 514 H3=03 DO YOU ALIGN OR ADJUST OSCILLATORS		25	24	0	
H 515 H3=04 DO YOU REMOVE OR REPLACE COMPLETE OSCILLATORS		21	21	0	
H 516 H3=05 DO YOU REMOVE OR REPLACE OSCILLATOR COMPONENTS		25	25	0	
H 517 H3=06 DO YOU TROUBLESHOOT TO OSCILLATOR CIRCUIT LEVEL		24	24	0	
H 518 H3=07 DO YOU TROUBLESHOOT TO OSCILLATOR COMPONENTS		24	23	0	
H 519 H3=08 DO YOU USE OR REFER TO FEEDBACK		23	23	0	
H 520 H3=09 DC YOU USE OR REFER TO FREQUENCY DETERMINING DEVICES		26	26	0	
H 521 H3=10 DO YOU USE OR REFER TO AMPLITUDE STABILITY		13	14	0	
H 522 H3=11 DO YOU USE OR REFER TO FREQUENCY STABILITY		11	9		
H 523 H3=12 DO YOU USE OR REFER TO DAMPING		16	16	0	
H 524 H3=13 DO YOU USE OR REFER TO REGENERATIVE FEEDBACK		20	21	0	
H 525 H3=14 DO YOU USE OR REFER TO PIEZOELECTRIC EFFECT		3	3	0	
H 526 H3=15 DO YOU USE OR REFER TO CRITICAL DAMPING		7	7	0	
H 527 H3=16 DO YOU USE OR REFER TO UNDER DAMPING		8	9	0	
H 528 H3=17 DO YOU USE OR REFER TO OVER DAMPING		8	9	0	
H 529 H3=18 DO YOU WORK WITH OSCILLATORS WHICH USE LC TANK		11	12	0	
H 530 H3=19 DO YOU WORK WITH OSCILLATORS WHICH USE RC NETWORKS AS		16	15	0	
H 531 H3=20 DO YOU WORK WITH OSCILLATORS WHICH USE CRYSTALS AS		4	3	0	
H 532 H3=21 DO YOU WORK WITH OSCILLATORS WHICH USE DON'T REMEMBER WHICH TYPE OF FDD		8	6	0	
H 533 H3=22 DO YOU WORK WITH SERIES HARTLEY SINUSOIDAL OSCILLATORS		2	3	0	
H 534 H3=23 DO YOU WORK WITH SHUNT HARTLEY SINUSOIDAL OSCILLATORS		2	2	0	
H 535 H3=24 DO YOU WORK WITH COUPLED SINUSOIDAL OSCILLATORS		4	3	0	
H 536 H3=25 DO YOU WORK WITH CLAPP SINUSOIDAL OSCILLATORS		1	1	0	
H 537 H3=26 DO YOU WORK WITH BUTLER SINUSOIDAL OSCILLATORS		1	1	0	
H 538 H3=27 DO YOU WORK WITH DON'T REMEMBER WHICH TYPE OF OSCILLATORS		12	12	0	
I 539 II=01 DO YOU WORK WITH MULTIVIBRATORS IN YOUR PRESENT JOB		24	24	0	
I 540 II=02 DO YOU INSPECT WAVE GENERATING OR SHAPING CIRCUITS		15	15	0	
I 541 II=03 DO YOU ALIGN OR ADJUST WAVE GENERATING OR SHAPING CIRCUITS		13	13	0	
I 542 II=04 DO YOU CALIBRATE WAVE GENERATING OR SHAPING CIRCUITS		11	11	0	
I 543 II=05 DO YOU TROUBLESHOOT TO WAVE GENERATING OR SHAPING CIRCUITS		14	14	0	
I 544 II=06 DO YOU TROUBLESHOOT TO WAVE GENERATING OR SHAPING CIRCUIT COMPONENTS		14	15	0	
I 545 II=07 DO YOU REMOVE OR REPLACE COMPLETE WAVE GENERATING OR SHAPING CIRCUITS		15	15	0	
I 546 II=08 DO YOU REMOVE OR REPLACE WAVE GENERATING OR SHAPING COMPONENTS		15	16	0	
I 547 II=09 DC YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN LC TANK		8	9	0	

PCT MEMBERS RESPONDING *YES* BY SELECTED GRPS
 TASK GROUP SUMMARY
 PERCENT MEMBERS PERFORMING

GFSUMI PAGE 21

		SPC	SPC	SPC
		061	002	043
24-75X				
1 548	11-10 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN RC NETWORKS	11	11	0
1 549	11-11 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN CRYSTALS	2	3	0
1 550	11-12 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN DON'T REMEMBER WHICH TYPE OF FDD	7	8	0
1 551	11-13 DO YOU WORK WITH ASTABLE MULTIVIBRATORS	11	9	0
1 552	11-14 DO YOU WORK WITH MONOSTABLE MULTIVIBRATORS	8	7	0
1 553	11-15 DO YOU WORK WITH BISTABLE MULTIVIBRATORS	19	18	0
1 554	11-16 DO YOU WORK WITH MULTIVIBRATORS	5	5	0
1 555	12-01 DO YOU WORK WITH LIMITERS OR CLAMPERS IN YOUR PRESENT JOB			
1 556	12-02 DO YOU WORK WITH SERIES DIODE LIMITERS	24	22	50
1 557	12-03 DO YOU WORK WITH SHUNT DIODE LIMITERS	18	17	0
1 558	12-04 DO YOU WORK WITH LIMITERS WITH BIAS	16	16	0
1 559	12-05 DO YOU WORK WITH ZENER DIODE LIMITERS	19	17	50
1 560	12-06 DO YOU WORK WITH TRANSISTOR LIMITERS	18	17	50
1 561	12-07 DO YOU WORK WITH DON'T KNOW WHICH TYPE OF LIMITERS	7	7	0
1 562	12-08 DO YOU WORK WITH BASIC DIODE CLAMPING CIRCUITS	12	11	50
1 563	12-09 DO YOU WORK WITH DIODE CLAMPING CIRCUITS WITH BIAS	9	9	0
1 564	12-10 DO YOU WORK WITH DON'T KNOW WHICH TYPE OF CLAMPING CIRCUIT	8	9	0
1 565	13-01 IN YOUR PRESENT JOB, DO YOU WORK ON EQUIPMENT WHICH CONTAINS ELECTRON TUBES			
1 566	13-02 DO YOU CHECK ELECTRON TUBES TO SEE IF THEY ARE GOOD	44	44	0
1 567	13-03 DO YOU USE TUBE TESTERS TO CHECK ELECTRON TUBES	45	44	0
1 568	13-04 DO YOU USE MULTIMETERS TO CHECK ELECTRON TUBES	29	29	0
1 569	13-05 DO YOU USE SCOPES TO CHECK ELECTRON TUBES	17	18	0
1 570	13-06 DO YOU USE SUBSTITUTION TO CHECK ELECTRON TUBES	41	40	0
1 571	13-07 DO YOU USE OR REFER TO CUTOFF	17	17	0
1 572	13-08 DO YOU USE OR REFER TO PEAK INVERSE VOLTAGE RATING	11	11	0
1 573	13-09 DO YOU USE OR REFER TO PEAK CURRENT RATING	8	9	0
1 574	13-10 DO YOU USE OR REFER TO TRANSIT TIME	4	4	0
1 575	13-11 DO YOU USE OR REFER TO PLATE DISSIPATION RATING	7	7	0
1 576	13-12 DO YOU USE OR REFER TO SATURATION	31	32	0
1 577	13-13 DO YOU USE OR REFER TO DC PLATE RESISTANCE	14	15	0
1 578	13-14 DO YOU COMPUTE ACTUAL VALUES OF THE DC PLATE RESISTANCE FOR ELECTRON TUBES	5	5	0
1 579	13-15 DO YOU USE OR REFER TO PLATE VOLTAGE	33	33	0
1 580	13-16 DO YOU USE OR REFER TO PLATE CURRENT	20	21	0
1 581	13-17 DO YOU USE OR REFER TO GRID VOLTAGE	31	32	0
1 582	13-18 DO YOU USE OR REFER TO GRID CURRENT	19	19	0
1 583	13-19 DO YOU USE OR REFER TO CATHODE VOLTAGE	32	32	0
1 584	13-20 DO YOU USE OR REFER TO CATHODE CURRENT	20	20	0
1 585	13-21 DO YOU USE OR REFER TO THE TRIODE AMPLIFICATION FACTOR (THE AMPLIFICATION FACTOR FOR TRIODES IS DEFINED AS THE RATIO OF CHANGE IN PLATE VOLTAGE TO A CHANGE IN GRID VOLTAGE)	8	9	0

PCT HRS RESPONDING "YES" BY SELECTED GROUPS
 TASK GROUP SUMMARY
 PERCENT MEMBERS PERFORMING

UPSUMI PAGE 22

		SPC 001	SPC 002	SPC 003
DYNAMIC				
1 586 13-22 DO YOU CALCULATE ACTUAL VALUES OF TRIODE AMPLIFICATION FACTORS		4	4	0
1 587 13-23 DO YOU USE OR REFER TO MULTIGRID (TETRODE, PENTODE, ETC) AMPLIFICATION FACTORS		7	7	0
1 588 13-24 DO YOU USE OR REFER TO ELECTRON TUBE TRANSCONDUCTANCE (G, WHICH IS MEASURED IN MHUS)		6	6	0
1 589 13-25 DO YOU CALCULATE ACTUAL VALUES OF ELECTRON TUBE TRANSCONDUCTANCES		4	4	0
1 590 13-26 DO YOU USE OR REFER TO THE ELECTRON TUBE PARAMETER CALLED AC PLATE RESISTANCE		5	5	0
1 591 13-27 DO YOU CALCULATE ACTUAL VALUES OF AC PLATE RESISTANCE		4	4	0
1 592 13-28 DO YOU USE OR REFER TO ELECTRON TUBE INTERELECTRODE CAPACITANCE		6	9	0
1 593 13-29 DO YOU USE OR REFER TO CHARACTERISTIC CURVES IN YOUR WORK WITH ELECTRON TUBES		4	4	0
1 594 13-30 DO YOU USE CHARACTERISTIC CURVES TO SELECT PLATE VOLTAGE FOR A SPECIFIED BIAS		6	6	0
1 595 13-31 DO YOU USE CHARACTERISTIC CURVES TO SELECT PLATE CURRENT FOR A SPECIFIED BIAS		5	4	0
1 596 13-32 DO YOU USE CHARACTERISTIC CURVES TO SELECT BIAS REQUIRED FOR CUT OFF		7	6	0
1 597 13-33 DO YOU USE CHARACTERISTIC CURVES TO SELECT BIAS REQUIRED FOR SATURATION		7	6	0
1 598 13-34 DO YOU USE OR REFER TO ELECTRON TUBE AMPLIFIER GAIN 1 599 13-35 DO YOU USE OR REFER TO ELECTRON TUBE AMPLIFIER EFFICIENCY		29	30	0
1 600 13-36 DO YOU USE TEST TUBE CHECKERS TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN		14	15	0
1 601 13-37 DO YOU USE MULTIMETERS TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN		24	25	0
1 602 13-38 DO YOU USE OSCILLOSCOPES TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN		12	13	0
1 603 13-39 DO YOU USE CHARACTERISTIC CURVES TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN		3	3	0
1 604 13-40 DO YOU CALCULATE ANY ELECTRON TUBE CAPACITANCES SUCH AS INPUT CAPACITANCE		2	3	0
1 605 13-41 DO YOU USE OR REFER TO SOCKET NOTATION 1 606 13-42 DO YOU USE OR REFER TO PIN NUMBERING SYSTEMS 1 607 13-43 DO YOU USE OR REFER TO THE TYPE OF MATERIAL OR THE OPERATING TEMPERATURE OF THE EMITTING SURFACE IN THE ELECTRON TUBES YOU WORK ON		38	36	0
1 608 13-44 DO YOU USE OR REFER TO TUBE SUBSTITUTION MATERIAL SUCH AS MANUALS OR CHARTS		26	25	0
J 609 JI-01 DO YOU WORK WITH ELECTRON TUBE AMPLIFIERS OR CIRCUITS IN YOUR PRESENT JOB		37	36	0
J 610 JI-02 DO YOU DETERMINE THE CLASS OF OPERATION FOR ELECTRON TUBE AMPLIFIERS IN ORDER TO TROUBLESHOOT AMPLIFIER CIRCUITS		15	16	0

PCT MRS RESPONDING *YES* b. ELECTED GRPS
 TASK GROUP SUMMARY
 PERCENT MEMBERS PERFORMING

GPSUM: PAGE 23

		SPC 001	SPC 002	SPC 003
CIRTSK				
J 611	J1=03 DO YOU TROUBLESHOOT OR REPAIR PARAPHASE AMPLIFIERS	7	7	0
J 612	J1=04 DO YOU TROUBLESHOOT OR REPAIR PUSH-PULL AMPLIFIERS	22	21	0
J 613	J1=05 DO YOU TROUBLESHOOT OR REPAIR COMPOUND-CONNECTED AMPLIFIERS	12	13	0
J 614	J1=06 DO YOU TROUBLESHOOT OR REPAIR CASCADE-CONNECTED AMPLIFIERS	14	14	0
J 615	J1=07 DO YOU TROUBLESHOOT OR REPAIR DON'T KNOW WHICH TYPE OF AMPLIFIER	16	16	0
J 616	J2=01 DO YOU WORK WITH GAS TUBES (HOT CATHODE OR COLD CATHODE)	26	26	0
J 617	J2=02 DO YOU WORK WITH CATHODE-RAY TUBES	12	12	0
J 618	J2=03 DO YOU USE OR REFER TO THE CHARACTERISTICS OF BEAM POWER TUBES	6	6	0
J 619	J2=04 DO YOU TROUBLESHOOT OR REPAIR CIRCUITS IN WHICH BEAM POWER TUBES ARE USED	8	9	0
J 620	J2=05 DO YOU USE OR REFER TO THE CHARACTERISTICS OF THYRATRONS	3	3	0
J 621	J2=06 DO YOU TROUBLESHOOT OR REPAIR CIRCUITS IN WHICH THYRATRONS ARE USED	5	5	0
J 622	J2=07 DO YOU USE OR REFER TO THE PRINCIPLES OF OPERATION OF ELECTRON GUNS OF CATHODE-RAY TUBES (CRT)	4	4	0
J 623	J2=08 DO YOU USE OR REFER TO THE PRINCIPLES OF OPERATION OF ELECTROMAGNETIC DEFLECTION SYSTEMS OF CATHODE-RAY TUBES (CRT)	2	3	0
J 624	J2=09 DO YOU USE OR REFER TO THE PRINCIPLES OF OPERATION OF ELECTROSTATIC DEFLECTION SYSTEMS OF CATHODE-RAY TUBES (CRT)	2	3	0
J 625	J2=10 DO YOU USE OR REFER TO PHOSPHOR SCREENS	7	7	0
J 626	J2=11 DO YOU USE OR REFER TO AQUADAG COATINGS	1	1	0
J 627	J2=12 DO YOU USE OR REFER TO ELECTRO OPTICS	1	1	0
J 628	J2=13 DO YOU USE OR REFER TO PERSISTENCE	1	1	0
J 629	J2=14 DO YOU USE OR REFER TO DECAY TIMES	1	1	0
J 630	J2=15 DO YOU USE OR REFER TO FLUORESCENCE	2	2	0
J 631	J2=16 DO YOU USE OR REFER TO PHOSPHORESCENCE	1	1	0
J 632	J3=01 DO YOU WORK ON TRANSMIT OR RECEIVE SYSTEMS IN YOUR PRESENT JOB	2	2	0
J 633	J3=02 DO YOU PERFORM TASKS ON FREQUENCY CONVERTERS	0	0	0
J 634	J3=03 DO YOU PERFORM TASKS ON FREQUENCY MIXERS	0	0	0
J 635	J3=04 DO YOU USE OR REFER TO THE HETERODYNING OF SIGNALS IN YOUR WORK WITH TRANSMIT OR RECEIVE SYSTEMS	0	0	0
J 636	J3=05 DO YOU PERFORM TASKS ON REACTANCE MODULATORS	0	0	0
J 637	J3=06 DO YOU PERFORM TASKS ON MODULATED OSCILLATORS	0	0	0
J 638	K1=01 DO YOU WORK ON AM TRANSMIT OR RECEIVE SYSTEMS IN YOUR PRESENT JOB	0	0	0
K 639	K1=02 DO YOU INSPECT AM TRANSMIT OR RECEIVE SYSTEMS	0	0	0
K 640	K1=03 DO YOU CLEAN AM TRANSMIT OR RECEIVE SYSTEMS	0	0	0
K 641	K1=04 DO YOU ALIGN OR ADJUST AM TRANSMIT OR RECEIVE SYSTEMS	0	0	0

PCT MBR'S RESPONDING *YES* BY SELECTED GRPS
 TASK GROUP SUMMARY
 PERCENT MEMBERS PERFORMING

GPSUM1 PAGE 24

	UY-TSK	SPC 001	SPC 002	SPC 003
K 642 K1=9 DO YOU TROUBLESHOOT TO AM TRANSMIT OR RECEIVE SYSTEMS K 643 K1=6 DO YOU TROUBLESHOOT TO AM TRANSMIT OR RECEIVE	0 0 0	0 0 0	0 0 0	0 0 0
K 644 K1=7 DO YOU REMOVE OR REPLACE AM TRANSMIT OR RECEIVE SYSTEMS	0 0 0	0 0 0	0 0 0	0 0 0
K 645 K1=8 DO YOU REMOVE OR REPLACE AM TRANSMIT OR RECEIVE COMPONENTS	0 0 0	0 0 0	0 0 0	0 0 0
K 646 K1=9 DC YOU PERFORM TASKS ON RF OSCILLATORS	0 0 0	0 0 0	0 0 0	0 0 0
K 647 K1=10 DO YOU PERFORM TASKS ON RF AMPLIFIERS	0 0 0	0 0 0	0 0 0	0 0 0
K 648 K1=11 DO YOU PERFORM TASKS ON AUDIO AMPLIFIERS	0 0 0	0 0 0	0 0 0	0 0 0
K 649 K1=12 DO YOU PERFORM TASKS ON POWER AMPLIFIERS	0 0 0	0 0 0	0 0 0	0 0 0
K 650 K1=13 DO YOU PERFORM TASKS ON LOCAL OSCILLATORS	0 0 0	0 0 0	0 0 0	0 0 0
K 651 K1=14 DO YOU PERFORM TASKS ON IF AMPLIFIERS	0 0 0	0 0 0	0 0 0	0 0 0
K 652 K1=15 DO YOU PERFORM TASKS ON DETECTORS	0 0 0	0 0 0	0 0 0	0 0 0
K 653 K1=16 DO YOU PERFORM TASKS ON DON'T MEMBER WHICH AM STAGE	0 0 0	0 0 0	0 0 0	0 0 0
K 654 K1=17 DO YOU USE OR REFER TO AMPLITUDE STABILIZATION IN TRANSMITTERS	0 0 0	0 0 0	0 0 0	0 0 0
K 655 K1=18 DO YOU USE OR REFER TO FREQUENCY STABILIZATION IN TRANSMITTERS	0 0 0	0 0 0	0 0 0	0 0 0
K 656 K1=19 DO YOU USE OR REFER TO SENSITIVITY OF RECEIVERS	0 0 0	0 0 0	0 0 0	0 0 0
K 657 K1=20 DO YOU USE OR REFER TO SELECTIVITY OF RECEIVERS	0 0 0	0 0 0	0 0 0	0 0 0
K 658 K1=21 DO YOU USE OR REFER TO 2ND HARMONIC DISTORTION	0 0 0	0 0 0	0 0 0	0 0 0
K 659 K1=22 DO YOU USE OR REFER TO BANDPASS DISTORTION	0 0 0	0 0 0	0 0 0	0 0 0
K 660 K1=23 DO YOU USE OR REFER TO SQUARE LAW DISTORTION	0 0 0	0 0 0	0 0 0	0 0 0
K 661 K1=24 DO YOU USE OR REFER TO CO-CHANNEL INTERFERENCE	0 0 0	0 0 0	0 0 0	0 0 0
K 662 K1=25 DO YOU USE OR REFER TO IMAGE FREQUENCIES IN RECEIVERS	0 0 0	0 0 0	0 0 0	0 0 0
K 663 K1=26 DO YOU USE OR REFER TO SIGNAL TO IMAGE RATIOS	0 0 0	0 0 0	0 0 0	0 0 0
K 664 K1=27 DO YOU TRACE SIGNALS ON CURRENT PATHS THROUGH AM TRANSMITTER SCHEMATIC DIAGRAMS	0 0 0	0 0 0	0 0 0	0 0 0
K 665 K1=28 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH AM RECEIVER SCHEMATIC DIAGRAMS	0 0 0	0 0 0	0 0 0	0 0 0
K 666 K2=01 DO YOU WORK WITH FM TRANSMIT OR RECEIVE SYSTEMS IN YOUR PRESENT JOB	0 0 0	0 0 0	0 0 0	0 0 0
K 667 K2=02 DO YOU INSPECT FM TRANSMIT OR RECEIVE SYSTEMS	0 0 0	0 0 0	0 0 0	0 0 0
K 668 K2=03 DO YOU CLEAN FM TRANSMIT OR RECEIVE SYSTEMS	0 0 0	0 0 0	0 0 0	0 0 0
K 669 K2=04 DO YOU ALIGN FM TRANSMIT OR RECEIVE SYSTEMS	0 0 0	0 0 0	0 0 0	0 0 0
K 670 K2=05 DO YOU TROUBLESHOOT TO FM TRANSMIT OR RECEIVE SYSTEMS	0 0 0	0 0 0	0 0 0	0 0 0
K 671 K2=06 DO YOU TROUBLESHOOT TO FM TRANSMIT OR RECEIVE COMPONENTS	0 0 0	0 0 0	0 0 0	0 0 0
K 672 K2=07 DO YOU REMOVE OR REPLACE FM TRANSMIT OR RECEIVE SYSTEMS	0 0 0	0 0 0	0 0 0	0 0 0
K 673 K2=08 DO YOU REMOVE OR REPLACE FM TRANSMIT OR RECEIVE COMPONENTS	0 0 0	0 0 0	0 0 0	0 0 0
K 674 K2=09 DO YOU PERFORM TASKS ON AUDIO AMPLIFIERS	0 0 0	0 0 0	0 0 0	0 0 0
K 675 K2=10 DO YOU PERFORM TASKS ON FREQUENCY MULTIPLIERS	0 0 0	0 0 0	0 0 0	0 0 0

PCT MEMBERS RESPONDING *YES* BY SELECTED GRPS
 TASK GROUP SUMMARY
 PERCENT MEMBERS PERFORMING

GPSUMI PAGE 27

TASK	GROUP	SUMMARY	PERCENT MEMBERS PERFORMING	DYNAMIC	SPC		
					001	002	003
L 733	L3-01	DO YOU WORK WITH DIGITAL COUNTERS IN YOUR PRESENT JOB	12	10	50		
L 734	L3-02	DO YOU USE OR REFER TO UP-COUNTERS	11	9	50		
L 735	L3-03	DO YOU USE OR REFER TO DOWN-COUNTERS	10	8	50		
L 736	L3-04	DO YOU USE OR REFER TO SERIAL COUNTERS	7	5	50		
L 737	L3-05	DO YOU USE OR REFER TO PARALLEL COUNTERS	7	6	50		
L 738	L3-06	DO YOU USE OR REFER TO KING COUNTERS	3	3	0		
L 739	L3-07	DO YOU USE OR REFER TO DECADE COUNTERS	7	5	50		
L 740	L3-08	DO YOU USE OR REFER TO COUNT DETECT CIRCUITS	7	5	50		
L 741	L3-09	DO YOU USE OR REFER TO DOWN CLOCKS	8	7	50		
L 742	L3-10	DO YOU USE OR REFER TO UP CLOCKS	9	8	50		
L 743	L3-11	DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF UP-COUNTERS HAVING COMPLEMENTED FLIP-FLOPS	7	6	50		
L 744	L3-12	DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF SERIAL UP- OR DOWN-COUNTERS HAVING COMPLEMENTING FLIP-FLOPS	7	5	50		
L 745	L3-13	DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF DECADE COUNTERS	6	4	50	COUNTERS	
L 746	L3-14	DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF RING COUNTERS	2	3	0		
L 747	L3-15	DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF SERIAL UP-COUNTERS FEEDING A PARALLEL STORAGE REGISTER	6	4	50		
L 748	L3-16	DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF SHIFT REGISTERS	7	4	50		
L 749	L3-17	DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF OTHER TYPE OF COUNTERS	4	3	50		
L 750	L3-18	DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR UP-COUNTERS HAVING COMPLEMENTED FLIP-FLOPS	6	4	50		
L 751	L3-19	DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR SERIAL UP- OR DOWN-COUNTERS HAVING COMPLEMENTING FLIP-FLOPS	5	3	50		
L 752	L3-20	DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR SERIAL UP-COUNTERS FEEDING A PARALLEL STORAGE REGISTERS	5	3	50		
L 753	L3-21	DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR OTHER TYPES OF COUNTERS	6	4	50		
L 754	L3-22	DO YOU CONSTRUCT TRUTH TABLES FROM LOGIC DIAGRAMS OF DECADE COUNTERS	4	3	50		
L 755	L3-23	DO YOU DETERMINE THE STATE OF EACH FLIP-FLOP IN RING COUNTERS FOR SPECIFIC INPUT PULSES	2	3	0		
L 756	L3-24	DO YOU DETERMINE THE APPROPRIATE AND GATE NECESSARY IN COUNT DETECT CIRCUITS TO INDICATE A REQUIRED COUNT	5	3	50		
N 757	M1-01	DO YOU WORK WITH SAWTOOTH WAVE GENERATORS	8	7	50		
N 758	M1-02	DO YOU WORK WITH TRAPEZOIDAL WAVE GENERATORS	3	3	50		
N 759	M1-03	DO YOU WORK WITH PULSED OSCILLATORS WITH REGENERATIVE FEEDBACK	7	6	50	TIMEING CIRCUITS	
N 760	M1-04	DO YOU WORK WITH PULSED OSCILLATORS WITHOUT REGENERATIVE FEEDBACK	7	6	50		

PCT MARS RESPONDING 'YES' BY SELECTED GROUPS
 TASK GROUP SUMMARY
 PERCENT MEMBERS PERFORMING

GPSUM1 PAGE 24

		SPC	SPC	SPC	SPC
	WY-TSK	001	002	003	
M 761	M1=05 DO YOU WORK WITH BLOCKING OSCILLATORS	3	3	0	
M 762	M1=06 DO YOU USE OR REFER TO RISE TIME	3	3	50	
M 763	M1=07 DO YOU USE OR REFER TO FALL OR FLYBACK TIME	4	4	50	
M 764	M1=08 DO YOU USE OR REFER TO SWEEP TIME	7	6	50	
M 765	M1=09 DO YOU USE OR REFER TO ELECTRICAL LENGTH OF SAWTOOTH	7	6	50	
M 766	M1=10 DO YOU USE OR REFER TO PHYSICAL LENGTH OF SAWTOOTH	7	7	50	
M 767	M1=11 DO YOU USE OR REFER TO LINEAR SLOPE OF SAWTOOTH	7	6	50	
M 768	M1=12 DO YOU USE OR REFER TO GATE LENGTH OF SAWTOOTH	6	5	50	
M 769	M2=01 DO YOU USE SIGNAL GENERATORS IN YOUR PRESENT JOB	12	11	50	
M 770	M2=02 DO YOU PERFORM OPERATIONAL CHECKS WHILE USING SIGNAL GENERATORS	11	9	50	
M 771	M2=03 DO YOU PERFORM PERIODIC MAINTENANCE SUCH AS ADJUSTING, ALIGNING, OR CALIBRATING WHILE USING SIGNAL GENERATORS	10	9	50	
M 772	M2=04 DO YOU TROUBLESHOOT TO AN ASSEMBLY OR SUBASSEMBLY WHILE USING SIGNAL GENERATORS	10	9	50	USE OF SIGNAL GENERATORS
M 773	M2=05 DO YOU TROUBLESHOOT TO THE SMALLEST REPLACEABLE COMPONENT WHILE USING SIGNAL GENERATORS	10	9	50	
M 774	M2=06 DO YOU USE AUDIO SINE/MEAN/SINUSOIDAL WAVE GENERATORS SUCH AS SQUARE WAVE, TRIANGLE, PULSE, OR SPIKE	6	7	50	
M 775	M2=07 DO YOU USE AUDIO NON-SINUSOIDAL WAVE GENERATORS SUCH AS SQUARE WAVE, TRIANGLE, PULSE, OR SPIKE	7	5	50	
M 776	M2=08 DO YOU USE RF GENERATORS LESS THAN 1,000 MHZ	2	1	50	
M 777	M2=09 DO YOU USE RF GENERATORS GREATER THAN 1,000 MHZ	0	0	0	
M 778	M2=10 DO YOU USE OTHER SPECIAL PURPOSE OR MULTI-FUNCTION GENERATORS	7	6	50	
M 779	M3=01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS DEALING WITH ALTERNATING CURRENT OR DIRECT CURRENT MOTORS OR GENERATORS	15	14	0	
M 780	M3=02 DO YOU INSPECT MOTORS	44	43	0	
M 781	M3=03 DO YOU CLEAN OR LUBRICATE MOTORS	44	43	0	
M 782	M3=04 DO YOU OPERATE MOTORS	41	41	0	
M 783	M3=05 DO YOU REMOVE OR REPLACE COMPLETE MOTORS	41	41	0	MOTORS AND
M 784	M3=06 DO YOU REMOVE OR REPLACE MOTOR PARTS	33	34	0	GENERATORS
M 785	M3=07 DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS OF MOTORS	45	44	0	
M 786	M3=08 DO YOU TROUBLESHOOT DOWN TO COMPONENT PARTS OF MOTORS	30	32	0	
M 787	M3=09 DO YOU PERFORM ANY TASKS ON FIELD COILS	14	15	0	
M 788	M3=10 DO YOU PERFORM ANY TASKS ON ARMATURES	26	27	0	
M 789	M3=11 DO YOU PERFORM ANY TASKS ON ROTORS	24	25	0	
M 790	M3=12 DO YOU PERFORM ANY TASKS ON BRUSHES	37	38	0	
M 791	M3=13 DO YOU PERFORM ANY TASKS ON SLIP RINGS	26	30	0	
M 792	M3=14 DO YOU PERFORM ANY TASKS ON COMMUTATORS	33	34	0	
M 793	M3=15 DO YOU PERFORM ANY TASKS ON POLE PIECES	17	18	0	

FACT MARS RESPONDING 'YES' BY SELECTED GRPS
 TASK GROUP SUMMARY
 PERCENT MEMBERS PERFORMING

C-T-TASK	SPC			SPC		
	001	002	003	001	002	003
M 794 M3-16 DO YOU DETERMINE OR MEASURE THE MAGNITUDE OF THE FORCE OR TORQUE CREATED BY A MOTOR	4	3	0			
M 795 M3-17 DO YOU DETERMINE OR MEASURE THE DIRECTION OF THE MECHANICAL FORCE OR TORQUE CREATED BY A MOTOR	10	9	0			
M 796 M3-18 DO YOU DETERMINE OR MEASURE THE MAGNITUDE OR DIRECTION OF THE INDUCED VOLTAGE IN MOTORS	6	9	0			
M 797 M3-19 DO YOU WORK WITH SYNCHRONOUS MOTORS	32	32	0			
M 798 M3-20 DO YOU WORK WITH INDUCTION MOTORS	33	33	0			
M 799 M3-21 DO YOU WORK WITH SPIT-PHASE MOTORS	24	25	0			
M 800 M3-22 DO YOU WORK WITH SOME COMBINATION OF THE ABOVE MOTORS	32	31	0			
M 801 M3-23 DO YOU INSPECT GENERATORS	40	40	0			
M 802 M3-24 DO YOU CLEAN OR LUBRICATE GENERATORS	39	39	0			
M 803 M3-25 DO YOU OPERATE GENERATORS	36	36	0			
M 804 M3-26 DO YOU REMOVE OR REPLACE COMPLETE GENERATORS	40	40	0			
M 805 M3-27 DO YOU REMOVE OR REPLACE GENERATOR PARTS	33	34	0			
M 806 M3-28 DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS OF GENERATORS	40	40	0			
M 807 M3-29 DO YOU TROUBLESHOOT DOWN TO COMPONENT PARTS OF GENERATORS	27	27	0			
M 808 N1-01 DO YOU WORK WITH METERS IN YOUR PRESENT JOB	40	39	0			
N 809 N1-02 DO YOU CONCEPTUALIZE OR CONSIDER THE FUNCTIONS OF PERMANENT MAGNETS	9	9	0			
N 810 N1-03 DO YOU CONCEPTUALIZE OR CONSIDER THE FUNCTIONS OF MOVING COILS	10	9	50	METER MOVEMENTS		
N 811 N1-04 DO YOU CONCEPTUALIZE OR CONSIDER THE FUNCTIONS OF SPIRAL SPRINGS	10	9	50			
N 812 N1-05 DO YOU READ METER SCALES	43	42	50			
N 813 N1-06 DO YOU EXTEND THE RANGE OF AMMETERS	15	15	0			
N 814 N1-07 DO YOU ZERO OMMETERS	41	41	0			
N 815 N1-08 DO YOU ZERO AMMETERS	20	21	0			
N 816 N1-09 DO YOU USE OR REFER TO VOLTMETER SENSITIVITY	24	26	0			
N 817 N1-10 DO YOU USE OR REFER TO VOLTMETER SENSITIVITY <small>EXPRESSED IN UNITS OF OHMS PER VOLT</small>	27	26	0			
N 818 N2-01 DO YOU WORK WITH SATURABLE REACTORS OR MAGNETIC AMPLIFIERS IN YOUR PRESENT JOB	28	29	0			
N 819 N2-02 DO YOU INSPECT MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	26	27	0			
N 820 N2-03 DO YOU CLEAN MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	19	20	0			
N 821 N2-04 DO YOU ADJUST MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	23	24	0	SATURABLE REACTORS AND MAGNETIC AMPLIFIERS		
N 822 N2-05 DO YOU TROUBLESHOOT MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	25	26	0			
N 823 N2-06 DO YOU REMOVE OR REPLACE MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	26	27	0			
N 824 N2-07 DO YOU REMOVE OR REPLACE MAGNETIC AMPLIFIER OR SATURABLE REACTOR COMPONENTS	19	20	0			

PCT MEMS RESPONDING *YES* BY SELECTED GRPS
 TASK GROUP SUMMARY
 PERCENT MEMBERS PERFORMING

GPSUM1 PAGE 30

ITEM-TSK	SPEC	SPEC	
		001	002
N 825 N2=08 DO YOU USE OR REFER TO HYSTERESIS CURVES OR LOOPS N 826 N2=09 DO YOU INTERPRET SCHEMATIC DRAWINGS TO DEVELOP OUTPUT WAVEFORMS ACROSS REACTOR WINDINGS OR LOAD RESISTORS OF SINGLE WINDING SATURABLE REACTORS	2	2	0
N 827 N2=10 DO YOU MEASURE OUTPUT WAVEFORMS ACROSS REACTOR WINDINGS OR LOAD RESISTORS OF SINGLE WINDING SATURABLE REACTORS	7	7	0
N 828 N2=11 DO YOU INTERPRET SCHEMATIC DRAWINGS TO DEVELOP OUTPUT WAVEFORMS FOR MAGNETIC AMPLIFIERS	7	8	0
N 829 N2=12 DO YOU USE OR REFER TO COERCIVE FORCE IN SATURABLE REACTORS	2	2	0
N 830 N2=13 DO YOU USE OR REFER TO RESIDUAL MAGNETISM IN SATURABLE REACTORS	2	2	0
N 631 N2=14 DO YOU USE OR REFER TO FLUX DENSITY IN SATURABLE REACTORS	3	3	0
N 632 N2=15 DO YOU USE OR REFER TO POINT OF SATURATION IN SATURABLE REACTORS	5	5	0
N 633 N2=16 DO YOU USE OR REFER TO SATURABLE REACTOR SCHEMATIC SKETCHES	14	15	0
N 634 N3=01 DO YOU WORK WITH WAVESHAPEING CIRCUITS IN YOUR PRESENT JOB	12	11	50
N 635 N3=02 DO YOU USE OR REFER TO TRANSIENT INTERVALS N 636 N3=03 DO YOU USE OR REFER TO PULSE WIDTH (PWN) N 637 N3=04 DO YOU USE OR REFER TO PULSE RECURRENCE TIME (PUT) N 638 N3=05 DO YOU USE OR REFER TO PULSE RECURRENCE FREQUENCY (PRF)	3	2	50
N 639 N3=06 DO YOU USE OR REFER TO DIFFERENTIATING CIRCUITS N 640 N3=07 DO YOU USE OR REFER TO INTEGRATING CIRCUITS N 641 N3=08 DO YOU USE OR REFER TO THE CLASSIFICATION OF TIME CONSTANTS (TC) AS LONG, MEDIUM, OR SHORT	7	6	50
N 642 N3=09 DO YOU DETERMINE WHETHER AN LR OR RC CIRCUIT IS DIFFERENTIATING OR INTEGRATING BASED ON THE TIME CONSTANT AND OUTPUT CONFIGURATION	7	7	50
N 643 N3=10 DO YOU WORK WITH SQUARE WAVE GENERATORS N 644 N3=11 DO YOU WORK WITH RECTANGULAR WAVE GENERATORS	7	6	50
O 845 O1=01 DO YOU WORK ON SINGLE SIDEBAND SYSTEMS IN YOUR PRESENT JOB	4	3	50
O 846 O1=02 DO YOU INSPECT SSB TRANSMIT OR RECEIVE SYSTEMS O 847 O1=03 DO YOU CLEAN SSB TRANSMIT OR RECEIVE SYSTEMS O 848 O1=04 DO YOU ALIGN SSB TRANSMIT OR RECEIVE SYSTEMS O 849 O1=05 DO YOU TROUBLESHOOT TO SSB TRANSMIT OR RECEIVE SYSTEMS O 850 O1=06 DO YOU TROUBLESHOOT TO SSB TRANSMIT OR RECEIVE COMPONENTS O 851 O1=07 DO YOU REMOVE OR REPLACE SSB TRANSMIT OR RECEIVE SYSTEMS O 852 O1=08 DO YOU REMOVE OR REPLACE SSB TRANSMIT OR RECEIVE COMPONENTS	1	1	0
SINGLE SIDEBAND SYSTEMS			

PCT MEMBERS RESPONDING *YES* BY SELECTED GROUPS
 TASK GROUP SUMMARY
 PERCENT MEMBERS PERFORMING

GPSUMI PAGE 31

DY-TASK		SPC		SPC	
		001	002	003	004
0 853 01-09 DO YOU PERFORM TASKS ON SSB AUDIO AMPLIFIERS		1	1	0	0
0 854 01-10 DO YOU PERFORM TASKS ON SSB BALANCED MODULATORS		0	0	0	0
0 855 01-11 DO YOU PERFORM TASKS ON SSB CARRIER OSCILLATORS		0	0	0	0
0 856 01-12 DO YOU PERFORM TASKS ON SSB LC FILTERS		0	0	0	0
0 857 01-13 DO YOU PERFORM TASKS ON SSB CRYSTAL FILTERS		0	0	0	0
0 858 01-14 DO YOU PERFORM TASKS ON SSB MECHANICAL FILTERS		0	0	0	0
0 859 01-15 DO YOU PERFORM TASKS ON SSB OSCILLATORS		0	0	0	0
0 860 01-16 DO YOU PERFORM TASKS ON SSB MIXERS		0	0	0	0
0 861 01-17 DO YOU PERFORM TASKS ON SSB DRIVERS		0	0	0	0
0 862 01-18 DO YOU PERFORM TASKS ON SSB POWER AMPLIFIERS		0	0	0	0
0 863 01-19 DO YOU PERFORM TASKS ON SSB RF AMPLIFIERS		0	0	0	0
0 864 01-20 DO YOU PERFORM TASKS ON SSB FREQUENCY CONVERTERS		0	0	0	0
0 865 01-21 DO YOU PERFORM TASKS ON SSB IF AMPLIFIERS		0	0	0	0
0 866 01-22 DO YOU PERFORM TASKS ON SSB DEMODULATORS		0	0	0	0
0 867 01-23 DO YOU PERFORM TASKS ON SSB DONT REMEMBER WHICH SSB		0	0	0	0
<u>SYSTEM STAGES</u>					
0 868 01-24 DO YOU USE OR REFER TO SELECTIVE FADING		0	0	0	0
0 869 01-25 DO YOU USE OR REFER TO PEAK POWER		0	0	0	0
0 870 01-26 DO YOU USE OR REFER TO FREQUENCY STABILITY		0	0	0	0
0 871 01-27 DO YOU USE OR REFER TO RESPONSE CURVES FOR		0	0	0	0
BANDWIDTH FILTERS					
0 872 01-28 DO YOU CALCULATE PEAK POWER OR EFFECTIVE POWER OF SSB		0	0	0	0
<u>TRANSMITTERS</u>					
0 873 01-29 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SSB		0	0	0	0
TRANSMITTER SCHEMATIC DIAGRAMS					
0 874 01-30 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SSB		0	0	0	0
RECEIVER SCHEMATIC DIAGRAMS					
0 875 02-01 DO YOU WORK ON PULSE MODULATION SYSTEMS IN YOUR		1	0	50	
PRESENT JOB					
0 876 02-02 DO YOU INSPECT PULSE MODULATION SYSTEMS		1	0	50	
0 877 02-03 DO YOU CLEAN PULSE MODULATION SYSTEMS		1	0	50	
0 878 02-04 DO YOU ALIGN PULSE MODULATION SYSTEMS		1	0	50	
0 879 02-05 DO YOU TROUBLESHOOT TO PULSE MODULATION SYSTEMS		1	0	50	
0 880 02-06 DO YOU TROUBLESHOOT TO PULSE MODULATION SYSTEM		1	0	50	
<u>PULSE MODULATION SYSTEMS</u>					
0 881 02-07 DO YOU REMOVE OR REPLACE PULSE MODULATION SYSTEMS		1	0	50	
0 882 02-08 DO YOU REMOVE OR REPLACE PULSE MODULATION SYSTEM		1	0	50	
COMPONENTS					
0 883 02-09 DO YOU WORK ON PULSE-AMPLITUDE MODULATION (PAM)		1	0	50	
SYSTEMS					
0 884 02-10 DO YOU WORK ON PULSE-DURATION MODULATION (PDM)		1	0	50	
SYSTEMS					
0 885 02-11 DO YOU WORK ON PULSE-POSITION MODULATION (PPM)		1	0	50	
SYSTEMS					
0 886 02-12 DO YOU WORK ON PULSE-CODE MODULATION (PCM) SYSTEMS		0	0	0	0
0 887 02-13 DO YOU WORK ON LINE PULSING MODULATION SYSTEMS		1	0	50	
0 888 02-14 DO YOU WORK ON DONT REMEMBER WHICH TYPE OF		0	0	0	0
MODULATION SYSTEM					

PCT HOURS RESPONDING 'YES' BY SELECTED GROUPS
 TASK GROUP SUMMARY
 PERCENT MEMBERS PERFORMING

QPSUH1 PAGE 32

DUTY-TASK	SPC		SPC	
	001	002	003	004
0 889 02-15 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM POWER SUPPLIES	1	0	50	0
0 890 02-16 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM CHARGING CHOKES AND CHARGING DIODES	1	0	50	0
0 891 02-17 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM PULSE FORMING NETWORKS	1	0	50	0
0 892 02-18 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM TIMERS	1	0	50	0
0 893 02-19 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM SWITCHES SUCH AS GAS THYRATRONS	0	0	0	0
0 894 02-20 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM PULSE TRANSFORMERS	1	0	50	0
0 895 02-21 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM TRANSMITTER TUBES	0	0	0	0
0 896 02-22 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM RF AMPLIFIERS	0	0	0	0
0 897 02-23 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM FREQUENCY CONVERTERS	1	0	50	0
0 898 02-24 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM IF AMPLIFIERS	0	0	0	0
0 899 02-25 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM DETECTORS	0	0	0	0
0 900 02-26 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM VIDEO AMPLIFIERS	0	0	0	0
0 901 02-27 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM POWER VIDEO AMPLIFIERS	0	0	0	0
0 902 02-28 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM DO YOU REMEMBER WHICH PULSE MODULATION SYSTEM STAGES	0	0	0	0
0 903 02-29 DO YOU USE OR REFER TO PULSE RECURRENCE FREQUENCY (PERF)	1	0	50	0
0 904 02-30 DO YOU USE OR REFER TO PULSE RECURRENCE TIME (PRT) OR PULSE RECURRENCE FREQUENCY (PERF)	1	0	50	0
0 905 02-31 DO YOU USE OR REFER TO PULSE WIDTH (PW)	1	0	50	0
0 906 02-32 DO YOU USE OR REFER TO PULSE SHAPE	1	0	50	0
0 907 02-33 DO YOU USE OR REFER TO PEAK POWER	1	0	50	0
0 908 02-34 DO YOU USE OR REFER TO AVERAGE POWER	1	0	50	0
0 909 02-35 DO YOU CALCULATE PULSE RECURRENCE TIME (PRT) OR PULSE RECURRENCE FREQUENCY (PERF)	1	0	50	0
0 910 02-36 DO YOU MEASURE PULSE RECURRENCE TIME (PRT) OR PULSE RECURRENCE FREQUENCY (PERF)	1	0	50	0
0 911 02-37 DO YOU USE FORMULAS TO CALCULATE AVERAGE POWER OR PEAK POWER OF PULSE MODULATION TRANSMIT SYSTEMS	1	0	50	0
0 912 02-38 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH PULSE MODULATION TRANSMITTER SCHEMATIC DIAGRAMS	1	0	50	0
0 913 02-39 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH PULSE MODULATION RECEIVER SCHEMATIC DIAGRAMS	1	0	50	0
0 914 03-01 DO YOU WORK WITH ANTENNAS IN YOUR PRESENT JOBS	0	0	0	0
0 915 03-02 DO YOU INSPECT ANTENNAS	0	0	0	0

ANTENNAS

PCT MEMBERS RESPONDING YES BY SELECTED GROUPS
 TASK GROUP SUMMARY
 PERCENT MEMBERS PERFORMING

UPSUMI PAGE 34

		SPL	SPC	SPC
		001	002	003
	UFT-15A			
C 945	03-32 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN PARASITIC ELEMENTS	0	0	0
O 946	03-33 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN PARASITIC ELEMENTS SERVING AS DIRECTORS	0	0	0
O 947	03-34 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN PARASITIC ELEMENTS SERVING AS REFLECTORS	0	0	0
O 948	03-35 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN UNT	0	0	0
O 949	REMEMBER WHAT KIND OF ELEMENTS	0	0	0
O 950	O3-36 DO YOU WORK ON UNIDIRECTIONAL ANTENNAS	0	0	0
O 951	O3-37 DO YOU WORK ON BI-DIRECTIONAL ANTENNAS	0	0	0
O 952	O3-38 DO YOU WORK ON DON'T REMEMBER THE DIRECTIONALITY	0	0	0
O 953	O3-39 DO YOU WORK WITH ROTAR ANTENNA ARRAYS	0	0	0
P 954	P1-01 IN YOUR PRESENT JOB DO YOU WORK WITH TRANSMISSION LINES (TRANSMISSION LINES ARE DEFINED TO INCLUDE LEADS BETWEEN RECEIVERS AND ANTENNAS, TELEPHONE LEADS, AS WELL AS HIGH VOLTAGE POWER LINES, ETC. DO NOT CONSIDER WAVEGUIDES AS TRANSMISSION LINES)	0	0	0
P 955	P1-02 DO YOU REFER TO OR USE COPPER LOSS OR IZR LOSS IN TRANSMISSION LINES	0	0	0
P 956	P1-03 DO YOU REFER TO OR USE SKIN EFFECTS OF HIGH FREQUENCY CURRENTS IN TRANSMISSION LINES	0	0	0
P 957	P1-04 DO YOU REFER TO OR USE RADIATION LOSS IN TRANSMISSION LINES	0	0	0
P 958	P1-05 DO YOU USE OR REFER TO DIELECTRIC LOSS IN TRANSMISSION LINES	0	0	0
P 959	P1-06 DO YOU USE OR REFER TO LEAKAGE LOSSES IN TRANSMISSION LINES	0	0	0
P 960	P1-07 DO YOU WORK WITH TWISTED PAIR TRANSMISSION LINES	0	0	0
P 961	P1-08 DO YOU WORK WITH THIN LEAD TRANSMISSION LINES	0	0	0
P 962	P1-09 DO YOU WORK WITH OPEN TWO-WIRE TRANSMISSION LINES	0	0	0
P 963	P1-10 DO YOU WORK WITH FLEXIBLE COAXIAL CABLE TRANSMISSION LINES	0	0	0
P 964	P1-11 DO YOU WORK WITH RIGID COAXIAL CABLE TRANSMISSION LINES	0	0	0
P 965	P1-12 DO YOU TROUBLESHOOT TRANSMISSION LINES	0	0	0
P 966	P1-13 DO YOU ANALYZE VOLTAGE OR CURRENT WAVEFORMS IN TRANSMISSION LINES TO DETERMINE THE TYPE OF TERMINATION (OPEN, SHORTED, CAPACITIVE, INDUCTIVE)	0	0	0
P 967	P1-14 DO YOU SELECT APPROPRIATE TRANSMISSION LINES TERMINATIONS TO ACHIEVE DESIRED WAVEFORMS	0	0	0
P 968	P1-15 DO YOU USE OR REFER TO SCHEMATIC SYMBOLS FOR LINE TERMINATIONS IN TERMS OF CIRCUIT TERMINATIONS	0	0	0
P 969	P1-16 DO YOU MEASURE STANDING WAVE RATIOS (SWR) OF TRANSMISSION LINES	0	0	0
P 970	P1-17 DO YOU CALCULATE STANDING WAVE RATIOS (SWR) OF TRANSMISSION LINES	0	0	0
P 971	P1-18 DO YOU PERFORM THE CALCULATIONS NECESSARY TO DETERMINE THE IMPEDANCE AND LENGTH OF QUARTER WAVELENGTH MATCHING TRANSFORMERS TO MATCH TRANSMISSION LINES TO LOADS	0	0	0

PCT HRS RESPONDING *YES* BY SELECTED GRPS
 TASK GROUP SUMMARY
 PERCENT MEMBERS PERFORMING

CPSUM1 PAGE 35

U1-TSK

	SPC U01	SPC U02	SPC U03
P 971 P1=19 DO YOU WORK WITH TRANSMISSION LINES WHICH ARE MATCHED TO LOADS USING MATCHING TRANSFORMERS	0	0	0
P 972 P1=20 DO YOU WORK WITH TRANSMISSION LINES WHICH ARE MATCHED TO LOADS USING DELTA MATCHING	0	0	0
P 973 P1=21 DO YOU SELECT THE TYPE OF TRANSMISSION LINE NEEDED FOR PARTICULAR JOBS WITHOUT REFERRING TO TECHNICAL DATA	0	0	0
P 974 P1=22 DO YOU USE OR REFER TO THE TERM CHARACTERISTIC IMPEDANCE (Z0) OF TRANSMISSION LINES	0	0	0
P 975 P1=23 DO YOU CALCULATE THE CHARACTERISTIC IMPEDANCE (Z0) OF TRANSMISSION LINES	0	0	0
P 976 P1=24 DO YOU USE OR REFER TO THE TERM CUTOFF FREQUENCY OF TRANSMISSION LINES	0	0	0
P 977 P1=25 DO YOU USE OR REFER TO THE TERM VELOCITY FACTOR (K) OF TRANSMISSION LINES	0	0	0
P 978 P1=26 DO YOU COMPUTE THE ELECTRICAL LENGTH OF TRANSMISSION LINES FOR PARTICULAR FREQUENCIES	0	0	0
P 979 P1=27 DO YOU CONSTRUCT TRANSMISSION LINES OF PARTICULAR ELECTRICAL LENGTH FOR GIVEN FREQUENCIES	0	0	0
P 980 P1=28 DO YOU USE OR REFER TO THE GENERAL RULE THAT AS THE FREQUENCY INCREASES AND THE PHYSICAL LENGTH OF TRANSMISSION LINES REMAIN CONSTANT, THE ELECTRICAL LENGTH INCREASES	0	0	0
P 981 P1=29 DO YOU WORK WITH NONRESONANT (FLAT) TRANSMISSION LINES	0	0	0
P 982 P1=30 DO YOU WORK WITH RESONANT TRANSMISSION LINES	0	0	0
P 983 P1=31 DO YOU WORK WITH TRANSMISSION LINES WHICH ARE MATCHED TO LOADS USING STUB MATCHING	0	0	0
P 984 P2=01 DO YOU WORK WITH WAVEGUIDES OR CAVITY RESONATORS IN YOUR PRESENT JOB	0	0	0
P 985 P2=02 DO YOU INSPECT WAVEGUIDES OR CAVITY RESONATORS	0	0	0
P 986 P2=03 DO YOU CLEAN WAVEGUIDES OR CAVITY RESONATORS	0	0	0
P 987 P2=04 DO YOU BEND WAVEGUIDES OR CAVITY RESONATORS	0	0	0
P 988 P2=05 DO YOU TWIST WAVEGUIDES OR CAVITY RESONATORS	0	0	0
P 989 P2=06 DO YOU PRESSURIZE WAVEGUIDES OR CAVITY RESONATORS	0	0	0
P 990 P2=07 DO YOU PURGE WAVEGUIDES OR CAVITY RESONATORS	0	0	0
P 991 P2=08 DO YOU TROUBLESHOOT WAVEGUIDES OR CAVITY RESONATORS	0	0	0
P 992 P2=09 DO YOU REMOVE OR INSTALL COMPLETE WAVEGUIDES	0	0	0
P 993 P2=10 DO YOU REMOVE OR INSTALL WAVEGUIDE SECTIONS	0	0	0
P 994 P2=11 DO YOU REMOVE OR INSTALL DUMMY LOADS	0	0	0
P 995 P2=12 DO YOU REMOVE OR INSTALL E BENDS	0	0	0
P 996 P2=13 DO YOU REMOVE OR INSTALL H BENDS	0	0	0
P 997 P2=14 DO YOU REMOVE OR INSTALL OTHER BENDS	0	0	0
P 998 P2=15 DO YOU REMOVE OR INSTALL CHOKES JOINTS	0	0	0
P 999 P2=16 DO YOU REMOVE OR INSTALL ROTATING JOINTS	0	0	0
P1000 P2=17 DO YOU REMOVE OR INSTALL DIRECTIONAL COUPLERS	0	0	0
P1001 P2=18 DO YOU REMOVE OR INSTALL BIODIRECTIONAL COUPLERS	0	0	0
P1002 P2=19 DO YOU USE OR REFER TO "A" WALL OF WAVEGUIDES	0	0	0

WAVEGUIDES AND
 CAVITY RESONATORS

PCT MURS RESPONDING (YES) BY SELECTED GRPS
 TASK GROUP SUMMARY
 PERCENT MEMBERS PERFORMING

GPSUM1 PAGE 36

	Y/T-TSK	SPC 001	SPC 002	SPC 003
P1003 P2=20 DO YOU USE OR REFER TO "B" WALL OF WAVEGUIDES	0	0	0	0
P1004 P2=21 DO YOU USE OR REFER TO CUT-OFF FREQUENCY OF WAVEGUIDES	0	0	0	0
P1005 P2=22 DO YOU USE OR REFER TO FREQUENCY-DETERMINING WALL OF WAVEGUIDES	0	0	0	0
P1006 P2=23 DO YOU USE OR REFER TO POWER-DETERMINING WALL OF WAVEGUIDES	0	0	0	0
P1007 P2=24 DO YOU USE OR REFER TO ELECTRICAL FIELD BOUNDARY CONDITIONS	0	0	0	0
P1008 P2=25 DO YOU USE OR REFER TO MAGNETIC FIELD BOUNDARY CONDITIONS	0	0	0	0
P1009 P2=26 DO YOU USE OR REFER TO DUPLEXER FIELD BOUNDARY CONDITIONS	0	0	0	0
P1010 P2=27 DO YOU USE OR REFER TO THE GENERAL RULE THAT MOST WAVEGUIDES ARE MADE WITH A "B" WALL SIZE OF .7 WAVELENGTHS OF THE OPERATING FREQUENCY	0	0	0	0
P1011 P2=28 DO YOU USE OR REFER TO THE GENERAL RULE THAT MOST "A" WALLS CHANGE FROM .2 TO .5 WAVELENGTHS IN SIZE, WITH .35 USED AS AN AVERAGE	0	0	0	0
P1012 P2=29 ARE YOU CONCERNED WITH THE MATERIAL (SUCH AS BRASS) WHICH WAVEGUIDES ARE MADE OF	0	0	0	0
P1013 P2=30 DO YOU COMPUTE THE LENGTH OF A WAVEGUIDE FOR SPECIFIC INSTALLATION	0	0	0	0
P1014 P2=31 DO YOU USE THE HIGH HAND RULE TO DETERMINE THE DIRECTION OF PROPAGATION, DIRECTION OF "E" FIELD, OR DIRECTION OF "H" FIELD IN WAVEGUIDES	0	0	0	0
P1015 P2=32 DO YOU USE OR REFER TO THE TIME PHASE OF PEAK "E" OR "H" LINES IN WAVEGUIDES	0	0	0	0
P1016 P2=33 DO YOU MEASURE THE TIME PHASE OF "E" OR "H" LINES IN WAVEGUIDES	0	0	0	0
P1017 P2=34 DO YOU USE OR REFER TO THE SPACE QUADRATURE OF "E" OR "H" LINES IN WAVEGUIDES	0	0	0	0
P1018 P2=35 ARE HIGH POWER PROBES USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	0	0	0	0
P1019 P2=36 ARE LOW POWER PROBES USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	0	0	0	0
P1020 P2=37 ARE LOOPS USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	0	0	0	0
P1021 P2=38 ARE APERTURES (WINDOWS OR THISFS) USED ON WAVEGUIDES	0	0	0	0
P1022 P2=39 ARE DO YOU WORK WITH THE KIND OF ENERGY COUPLING USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	0	0	0	0
P1023 P2=40 DO YOU DETERMINE WHERE PROBES SHOULD BE MOUNTED IN WAVEGUIDES OR CAVITY RESONATORS WITHOUT REFERRING TO TECHNICAL DATA	0	0	0	0
P1024 P2=41 DO YOU DETERMINE THE POSITIONING OF LOOPS IN WAVEGUIDES OR CAVITY RESONATORS WITHOUT REFERRING TO TECHNICAL DATA	0	0	0	0

PCT MBR'S RESPONDING *YES* BY SELECTED GRPS
TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

GPSUM1 PAGE 37

DT-TSK	SPC 001	SPC 002	SPC 003
P1Q25 P2=42 DO YOU DETERMINE THE POSITIONING OR SIZE OF APERTURES IN WAVEGUIDES OR CAVITY RESONATORS WITHOUT REFERRING TO TECHNICAL DATA	0	0	0
P1Q26 P2=43 ARE CHOKE JOINTS USED IN WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	0	0	0
P1Q27 P2=44 ARE ROTATING JOINTS USED IN WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	0	0	0
P1Q28 P2=45 ARE DON'T REMEMBER THE KIND OF JOINTS USED IN WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	0	0	0
P1Q29 P2=46 DO YOU TUNE CAVITY RESONATORS USING CAPACITIVE TUNING	0	0	0
P1Q30 P2=47 DO YOU TUNE CAVITY RESONATORS USING INDUCTIVE TUNING	0	0	0
P1Q31 P2=48 DO YOU TUNE CAVITY RESONATORS USING VOLUME TUNING	0	0	0
P1Q32 P2=49 DO YOU TUNE CAVITY RESONATORS USING DON'T REMEMBER THE METHOD OF TUNING	0	0	0
P1Q33 P2=50 DO YOU MEASURE THE FREQUENCY OF SIGNALS IN CAVITY RESONATORS	0	0	0
P1Q34 P1Q1 IN YOUR PRESENT JOB DO YOU WORK WITH KLYSTRONS, TRAVELING WAVE TUBES (TWT), PARAMETRIC AMPLIFIERS, OR MAGNETRONS	0	0	0
P1Q35 P3=02 DO YOU USE OR REFER TO INTERELECTRODE CAPACITANCE	0	0	0
P1Q36 P3=03 DO YOU USE OR REFER TO ELECTION TRANSIT TIME	0	0	0
P1Q37 P3=04 DO YOU USE OR REFER TO LEAD INDUCTANCE	0	0	0
P1Q38 P3=05 DO YOU USE OR REFER TO RF LOSSES IN EXTERNAL CIRCUITRY	0	0	0
P1Q39 P3=06 DO YOU USE OR REFER TO PRINCIPLE OF ELECTRON VELOCITY MODULATION	0	0	0
P1Q40 P3=07 DO YOU USE OR REFER TO ELECTRON BUNCHING	0	0	0
P1Q41 P3=08 DO YOU WORK WITH TWO-CAVITY KLYSTRONS	0	0	0
P1Q42 P3=09 DO YOU WORK WITH THREE-CAVITY KLYSTRONS	0	0	0
P1Q43 P3=10 DO YOU WORK WITH REFLEX KLYSTRONS	0	0	0
P1Q44 P3=11 DO YOU WORK WITH TRAVELING-WAVE TUBES (TWT)	0	0	0
P1Q45 P3=12 DO YOU WORK WITH NONDEGENERATIVE PARAMETRIC AMPLIFIERS	0	0	0
P1Q46 P3=13 DO YOU WORK WITH UP-CONVERTER PARAMETRIC AMPLIFIERS	0	0	0
P1Q47 P3=14 DO YOU WORK WITH MAGNETRONS	0	0	0
P1Q48 P3=15 DO YOU INSPECT KLYSTRONS OR TWT	0	0	0
P1Q49 P3=16 DO YOU CLEAN KLYSTRONS OR TWT	0	0	0
P1Q50 P3=17 DO YOU TUNE KLYSTRONS OR TWT ELECTRICALLY	0	0	0
P1Q51 P3=18 DO YOU TUNE KLYSTRONS OR TWT MECHANICALLY	0	0	0
P1Q52 P3=19 DO YOU PERFORM OPERATIONAL CHECKS OF KLYSTRONS OR TWT	0	0	0
P1Q53 P3=20 DO YOU TROUBLESHOOT KLYSTRONS OR TWT	0	0	0
P1Q54 P3=21 DO YOU REMOVE OR REPLACE COMPLETE KLYSTRON OR TWT	0	0	0
P1Q55 P3=22 DO YOU REMOVE OR REPLACE KLYSTRON OR TWT COMPONENTS	0	0	0
P1Q56 P3=23 DO YOU INSPECT PARAMETRIC AMPLIFIERS	0	0	0
P1Q57 P3=24 DO YOU CLEAN PARAMETRIC AMPLIFIERS	0	0	0
P1Q58 P3=25 DO YOU ADJUST PARAMETRIC AMPLIFIERS	0	0	0

PCT MRS RESPONDING 'YES' BY SELECTED GRPS
 TASK GROUP SUMMARY
 PERCENT MEMBERS PERFORMING

		SPC 001	SPC 002	SPC 003
	DT-TSK			
P1059 P3=26	DO YOU TUNE PARAMETRIC AMPLIFIERS	0	0	0
P1060 P3=27	DO YOU PERFORM OPERATIONAL CHECKS OF PARAMETRIC AMPLIFIERS	0	0	0
P1061 P3=28	DO YOU TROUBLESHOOT PARAMETRIC AMPLIFIERS	0	0	0
P1062 P3=29	DO YOU REMOVE OR REPLACE COMPLETE PARAMETRIC AMPLIFIERS	0	0	0
P1063 P3=30	DO YOU REMOVE OR REPLACE PARAMETRIC AMPLIFIERS	0	0	0
	COMPONENTS			
P1064 P3=31	DO YOU INSPECT MAGNETRONS	0	0	0
P1065 P3=32	DO YOU CLEAN MAGNETRONS	0	0	0
P1066 P3=33	DO YOU ADJUST MAGNETRONS	0	0	0
P1067 P3=34	DO YOU TUNE MAGNETRONS	0	0	0
P1068 P3=35	DO YOU PERFORM OPERATIONAL CHECKS OF MAGNETRONS	0	0	0
P1069 P3=36	DO YOU TROUBLESHOOT MAGNETRONS	0	0	0
P1070 P3=37	DO YOU REMOVE OR REPLACE COMPLETE MAGNETRON	0	0	0
P1071 P3=38	DO YOU REMOVE OR REPLACE MAGNETRON COMPONENTS	0	0	0
P1072 P3=39	DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS COLLECTOR PLATES	0	0	0
P1073 P3=40	DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS CATCHER CAVITIES	0	0	0
P1074 P3=41	DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS CATCHER GRIDS	0	0	0
P1075 P3=42	DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS FEEDBACK LOOPS	0	0	0
P1076 P3=43	DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS DRIFT SPACES	0	0	0
P1077 P3=44	DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS BUNCHER GRIDS	0	0	0
P1078 P3=45	DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS BUNCHER CAVITIES	0	0	0
P1079 P3=46	DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS CONTROL GRIDS	0	0	0
P1080 P3=47	DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF HEFLEX KLYSTRON CATHODES	0	0	0
P1081 P3=48	DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF HEFLEX KLYSTRON REPELLER (REFLECTOR) PLATES	0	0	0
P1082 P3=49	DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF HEFLEX KLYSTRON GRIDS	0	0	0
P1083 P3=50	DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF HEFLEX KLYSTRON GRID CAVITY GAPS	0	0	0
P1084 P3=51	DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF HEFLEX KLYSTRON RESONANT CAVITIES	0	0	0
P1085 P3=52	DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF HEFLEX KLYSTRON MAGNETIC COUPLING LOOPS	0	0	0
P1086 P3=53	DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF HEFLEX KLYSTRON FILAMENTS	0	0	0
P1087 P3=54	DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF HEFLEX KLYSTRON CATHODES	0	0	0

PCT MEMBERS RESPONDING *YES* BY SELECTED GROUPS
 TASK GROUP SUMMARY
 PERCENT MEMBERS PERFORMING

GPSUMI PAGE 39

	DYNAMIC		
	SPC 001	SPC 002	SPC 003
P1088 P3-55 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON OUTPUT LEADS	0	0	0
P1089 P3-56 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES FILAMENTS	0	0	0
P1090 P3-57 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES CATHODES	0	0	0
P1091 P3-58 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES MODULATOR GRIDS	0	0	0
P1092 P3-59 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES ANODES	0	0	0
P1093 P3-60 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES HELICES	0	0	0
P1094 P3-61 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES ATTENATORS	0	0	0
P1095 P3-62 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES COLLECTORS	0	0	0
P1096 P3-63 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES MAGNETS	0	0	0
P1097 P3-64 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER FERRITE CAVITIES	0	0	0
P1098 P3-65 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER SIGNAL CAVITIES	0	0	0
P1099 P3-66 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER IDLER CAVITIES	0	0	0
P1100 P3-67 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER VARACTOR DIODES	0	0	0
P1101 P3-68 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER FERRITE ISOLATORS	0	0	0
P1102 P3-69 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER REVERSE-BIAS BATTERIES	0	0	0
P1103 P3-70 DO YOU PERFORM TASKS ON ANODES	0	0	0
P1104 P3-71 DO YOU PERFORM TASKS ON ANODE COOLING PINS	0	0	0
P1105 P3-72 DO YOU PERFORM TASKS ON COUPLING LOOPS	0	0	0
P1106 P3-73 DO YOU PERFORM TASKS ON HEATER LEADS	0	0	0
P1107 P3-74 DO YOU PERFORM TASKS ON RESONANT CAVITIES	0	0	0
P1108 P3-75 DO YOU PERFORM TASKS ON CATHODES	0	0	0
P1109 P3-76 DO YOU PERFORM TASKS ON MAGNETS	0	0	0
Q1110 Q1-01 DO YOU USE OR REFER TO STORAGE REGISTERS	5	5	5
Q1111 Q1-02 DO YOU USE OR REFER TO SHIFT REGISTERS	8	6	5
Q1112 Q1-03 DO YOU USE OR REFER TO LOGIC SYMBOLS OF SHIFT REGISTERS	7	5	5
Q1113 Q1-04 DO YOU USE OR REFER TO LOGIC SYMBOLS OF STORAGE REGISTERS	5	4	5
Q1114 Q1-05 DO YOU TRACE THE DATA FLOW THROUGH LOGIC DIAGRAMS OF SHIFT REGISTERS	4	2	5
Q1115 Q1-06 DO YOU TRACE THE DATA FLOW THROUGH LOGIC DIAGRAMS OF OTHER TYPE OF REGISTERS	5	3	5

PCT HRS RESPONDING 'YES' BY SELECTED GROUPS
 TASK GROUP SUMMARY
 PERCENT MEMBERS PERFORMING

OPSUM1 PAGE 40

		SPC	SPC	SPC
	41116 41-07 DO YOU DETERMINE THE STATE OF EACH FLIP-FLOP OF A SHIFT REGISTER AFTER A SPECIFIED NUMBER OF SHIFT PULSES HAVE PASSED	7	4	50
41117	42-01 DO YOU WORK WITH DIGITAL COUNTERS, REGISTERS, OR STORAGE DEVICES IN YOUR PRESENT JOB	8	6	50
41118	42-02 DO YOU USE OR REFER TO DELAY LINES	2	1	50
41119	42-03 DO YOU USE OR REFER TO MAGNETIC CORES	2	2	0
41120	42-04 DO YOU USE OR REFER TO MAGNETIC DRUMS	1	1	0
41121	42-05 DO YOU USE OR REFER TO MAGNETIC TAPES	2	2	0
41122	42-06 DO YOU USE OR REFER TO ACCESS TIME OR SPEED ON MEMORY SYSTEMS	2	3	0
41123	42-07 DO YOU USE OR REFER TO WORD CAPACITY OF MEMORY SYSTEMS	2	2	0
41124	42-08 DO YOU USE OR REFER TO VOLATILITY OF MEMORY SYSTEMS	2	4	0
41125	42-09 DO YOU USE OR REFER TO LOGIC SYMBOL OF DELAY LINES	2	1	50
41126	43-01 IN YOUR PRESENT JOB, DO YOU WORK WITH DIGITAL-TO-ANALOG (D/A) CONVERTERS, ANALOG-TO-DIGITAL (A/D) CONVERTERS, OR BINARY-TO-DECIMAL READOUT CONVERTERS	10	9	50
41127	43-02 DO YOU COMPUTE OUTPUT VOLTAGES FOR ELECTROMECHANICAL DIGITAL-TO-ANALOG (D/A) CONVERTERS FOR GIVEN INPUT VOLTAGES	4	3	50
41128	43-03 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE COUNT IN ELECTROMECHANICAL DIGITAL-TO-ANALOG (D/A) CONVERTERS IS DETERMINED BY ADDING THE DENOMINATORS OF THE RESISTORS	3	3	0
41129	43-04 DO YOU COMPUTE ANALOG VOLTAGES FOR GIVEN BINARY COUNTS IN ELECTRONIC DIGITAL-TO-ANALOG (D/A) CONVERTERS	6	4	50
41130	43-05 DO YOU PERFORM SAMPLE FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	6	4	50
41131	43-06 DO YOU PERFORM HOLD FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	6	4	50
41132	43-07 DO YOU PERFORM COMPARE FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	6	4	50
41133	43-08 DO YOU PERFORM DIGITIZE FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	3	3	50
41134	43-09 DO YOU PERFORM DON'T REMEMBER WHICH FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	2	2	0
41135	43-10 DO YOU USE OR REFER TO SAMPLE FUNCTION OF A/D CONVERTERS	8	7	50
41136	43-11 DO YOU USE OR REFER TO HOLD FUNCTION OF A/D CONVERTERS	8	7	50
41137	43-12 DO YOU USE OR REFER TO COMPARE FUNCTION OF A/D CONVERTERS	8	7	50
41138	43-13 DO YOU USE OR REFER TO DIGITAL FUNCTION OF A/D CONVERTERS	7	6	50
41139	43-14 DO YOU PERFORM ANY TASKS ON MECHANICAL ANALOG-TO-DIGITAL (A/D) CONVERTERS	2	2	0

PCT MEMBERS RESPONDING 'YES' BY SELECTED GROUPS
 TASK GROUP SUMMARY
 PERCENT MEMBERS PERFORMING

GFSUMI PAGE 41

		GFTSK			SPC		
		001	002	003	SPC	001	002
R1140	R1=01 DO YOU WORK WITH PHANTASTRON CIRCUITY IN YOUR PRESENT JOB	0	0	0	PHANTASTRONS		
R1141	R2=01 IN YOUR PRESENT JOB DO YOU WORK WITH SCHMITT TRIGGER CIRCUITS	2	2	0			
R1142	R2=02 DO YOU TRACE DATA FLOW THROUGH SCHMITT TRIGGER SCHEMATIC DIAGRAMS	2	2	0	SCHMITT TRIGGERS		
R1143	R2=03 DO YOU USE OR REFER TO SCHMITT TRIGGER LOGIC SYMBOLS	2	2	0			
R1144	R3=01 IN YOUR PRESENT JOB DO YOU FABRICATE MULTICONDUCTOR CABLES	7	7	0	CABLE FABRICATION		
R1145	R3=02 DO YOU FABRICATE COAXIAL CABLES	6	5	0			
S1146	S1=01 IN YOUR PRESENT JOB DO YOU PERFORM ANY TASKS ON VISUAL READOUT SYSTEMS	18	17	50			
S1147	S1=02 DO YOU PERFORM ANY TASKS ON NIXIE LIGHTS OR NIXIE LIGHT DECODER SYSTEMS	4	3	0	INPUT/OUTPUT DEVICES		
S1148	S1=03 DO YOU ANALYZE NIXIE LIGHT DECODER SYSTEMS USING BOOLEAN ALGEBRA	2	2	0			
S1149	S2=01 DO YOU WORK WITH PHOTO TUBES IN YOUR PRESENT JOB	2	2	0	PHOTO SENSITIVE DEVICES		
S1150	S3=01 IN YOUR PRESENT JOB DO YOU WORK WITH CHOPPER CIRCUITS	28	29	0			
S1151	S3=02 DO YOU MEASURE EXCITATION FREQUENCIES	7	6	0			
S1152	S3=03 DO YOU MEASURE VOLTAGE-CURRENT PHASE RELATIONSHIPS	6	6	0			
S1153	S3=04 DO YOU USE OR REFER TO EXCITATION FREQUENCIES	6	6	0			
S1154	S3=05 DO YOU USE OR REFER TO VOLTAGE-CURRENT PHASE RELATIONSHIPS	4	4	0			
S1155	S3=06 DO YOU USE SERVOS IN CONJUNCTION WITH CHOPPER CIRCUIT OPERATION	24	26	0	SYNCHRONOUS VIBRATIONS (CHOPPER CIRCUITS)		
S1156	S3=07 DO YOU USE DETECTORS IN CONJUNCTION WITH CHOPPER CIRCUIT OPERATION	9	9	0			
S1157	S3=08 DO YOU USE ERROR SIGNAL DEVICES IN CONJUNCTION WITH CHOPPER CIRCUIT OPERATION	12	13	0			
S1158	S3=09 DO YOU USE COMPARISON CIRCUITS IN CONJUNCTION WITH CHOPPER CIRCUIT OPERATION	14	15	0			
T1159	T1=01 DOES YOUR PRESENT JOB INVOLVE ANY TASKS DEALING WITH INFRARED SYSTEMS	0	0	0			
T1160	T1=02 DO YOU INSPECT INFRARED SYSTEMS	0	0	0			
T1161	T1=03 DO YOU CLEAN INFRARED SYSTEMS	0	0	0			
T1162	T1=04 DO YOU ADJUST OR CALIBRATE INFRARED SYSTEMS	0	0	0			
T1163	T1=05 DO YOU OPERATE INFRARED SYSTEMS	0	0	0			
T1164	T1=06 DO YOU TROUBLESHOOT WIRE CONNECTIONS OF INFRARED SYSTEMS	0	0	0	INFRARED		
T1165	T1=07 DO YOU TROUBLESHOOT MAJOR ASSEMBLIES OF INFRARED SYSTEMS	0	0	0			
T1166	T1=08 DO YOU TROUBLESHOOT DOWN TO INFRARED SYSTEM COMPONENT PARTS	0	0	0			
T1167	T1=09 DO YOU REMOVE OR REPLACE MAJOR ASSEMBLIES OF INFRARED SYSTEMS	0	0	0			
T1168	T1=10 DO YOU REMOVE OR REPLACE INFRARED SYSTEM COMPONENT PARTS	0	0	0			

PCT MRS RESPONDING *YES* BY SELECTED GROUPS
 TASK GROUP SUMMARY
 PERCENT MEMBERS PERFORMING

GPSUM1 PAGE 42

		SPC 001	SPC 002	SPC 003
UY-TSK				
11169	T1-11 DO YOU USE OR REFER TO FAR REGION	0	0	0
11170	T1-12 DO YOU USE OR REFER TO INTERMEDIATE REGION	0	0	0
11171	T1-13 DO YOU USE OR REFER TO NEAR REGION	0	0	0
11172	T1-14 DO YOU USE OR REFER TO MICRON	0	0	0
11173	T1-15 DO YOU USE OR REFER TO GRAY BODIES	0	0	0
11174	T1-16 DO YOU USE OR REFER TO BLACK BODIES	0	0	0
11175	T1-17 DO YOU USE OR REFER TO ABSORPTION	0	0	0
11176	T1-18 DO YOU USE OR REFER TO SCATTERING	0	0	0
11177	T1-19 DO YOU USE OR REFER TO ABSOLUTE ZERO	0	0	0
11178	T1-20 DO YOU PERFORM TASKS ON BLITZ	0	0	0
11179	T1-21 DO YOU PERFORM TASKS ON TARGET BUTTONS	0	0	0
11180	T1-22 DO YOU PERFORM TASKS ON ERECTOR LENSES	0	0	0
11181	T1-23 DO YOU PERFORM TASKS ON OCULAR LENSES	0	0	0
11182	T1-24 DO YOU PERFORM TASKS ON CORRECTION LENSES	0	0	0
11183	T1-25 DO YOU PERFORM TASKS ON FILTERS	0	0	0
11184	T1-26 DO YOU PERFORM TASKS ON SPHERICAL MIRRORS	0	0	0
11185	T1-27 DO YOU PERFORM TASKS ON PLANE MIRRORS	0	0	0
11186	T2-01 DOES YOUR PRESENT JOB INVOLVE ANY TASKS DEALING WITH LASERS	0	0	0
11187	T2-02 DO YOU INSPECT LASER SYSTEMS	0	0	0
11188	T2-03 DO YOU CLEAN LASER SYSTEMS	0	0	0
11189	T2-04 DO YOU OPERATE LASER SYSTEMS	0	0	0
11190	T2-05 DO YOU TROUBLESHOOT LASER SYSTEMS	0	0	0
11191	T2-06 DO YOU TROUBLESHOOT WIRE CONNECTIONS OF LASER SYSTEMS	0	0	0
11192	T2-07 DO YOU TROUBLESHOOT MAJOR ASSEMBLIES OF LASER SYSTEMS	0	0	0
11193	T2-08 DO YOU TROUBLESHOOT TO COMPONENT PARTS OF LASER SYSTEMS	0	0	0
11194	T2-09 DO YOU REMOVE OR REPLACE MAJOR ASSEMBLIES OF LASER SYSTEMS	0	0	0
11195	T2-10 DO YOU REMOVE OR REPLACE COMPONENT PARTS OF LASER SYSTEMS	0	0	0
11196	T2-11 DO YOU USE OR REFER TO ANGSTROMS (A)	0	0	0
11197	T2-12 DO YOU USE OR REFER TO ELECTRON ENERGY LEVELS	0	0	0
11198	T2-13 DO YOU USE OR REFER TO GROUND STATE	0	0	0
11199	T2-14 DO YOU USE OR REFER TO EXCITED STATE	0	0	0
11200	T2-15 DO YOU USE OR REFER TO PACKET OF RADIATION	0	0	0
11201	T2-16 DO YOU USE OR REFER TO PHOTONS	0	0	0
11202	T2-17 DO YOU USE OR REFER TO SPONTANEOUS EMISSION	0	0	0
11203	T2-18 DO YOU USE OR REFER TO STIMULATED EMISSION	0	0	0
11204	T2-19 DO YOU USE OR REFER TO COHERENCE OR INCOHERENCE	0	0	0
11205	T2-20 DO YOU USE OR REFER TO INVERSION LEVEL	0	0	0
11206	T2-21 DO YOU USE OR REFER TO MONOCHROMATIC	0	0	0
11207	T2-22 DO YOU WORK WITH ACTIVE MATERIALS	0	0	0
11208	T2-23 DO YOU WORK WITH PUMPING SOURCES	0	0	0
11209	T2-24 DO YOU WORK WITH FULL SILVERED (LIQUID REFLECTIVE) MIRRORS	0	0	0

PCT MRS RESPONDING 'YES' BY SELECTED GROUPS
 TASK GROUP SUMMARY
 PERCENT MEMBERS PERFORMING

CP5UM1 PAGE 43

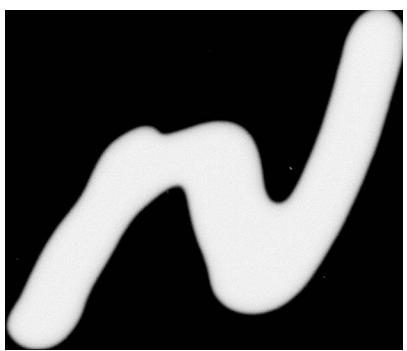
		SPC 001	SPC 002	SPC 003
CY-TSK				
T1210	T2-25 DO YOU WORK WITH HALF SILVERED (92A REFLECTIVE) MIRRORS	0	0	0
T1211	T2-26 DO YOU WORK WITH HELICAL FLASHTUBES	0	0	0
T1212	T2-27 DO YOU WORK WITH RUBY	0	0	0
T1213	T2-28 DO YOU WORK WITH HELIUM-NEON	0	0	0
T1214	T2-29 DO YOU WORK WITH HELIUM-XENON	0	0	0
T1215	T2-30 DO YOU WORK WITH XENON	0	0	0
T1216	T2-31 DO YOU WORK WITH CESIUM-HELIUM	0	0	0
T1217	T2-32 DO YOU WORK WITH ARGON	0	0	0
T1218	T2-33 DO YOU WORK WITH NEODYMIUM IN GLASS	0	0	0
T1219	T2-34 DO YOU WORK WITH GALLIUM ARSENIDE	0	0	0
T1220	T3-01 IN YOUR PRESENT JOB DO YOU WORK WITH DISPLAY TUBES, SUCH AS DIRECT VIEW STORAGE (DVST) OR MULTIPLE MODE STORAGE TUBES (HMST)	0	0	0
T1221	T3-02 DO YOU INSPECT DVST OR HMST	0	0	0
T1222	T3-03 DO YOU CLEAN DVST OR HMST	0	0	0
T1223	T3-04 DO YOU ADJUST OR CALIBRATE DVST OR HMST	0	0	0
T1224	T3-05 DO YOU OPERATE SYSTEMS THAT CONTAIN DVST OR HMST	0	0	0
T1225	T3-06 DO YOU TROUBLESHOOT DVST OR HMST	0	0	0
CIRCUITS				
T1226	T3-07 DO YOU REMOVE OR REPLACE DVST OR HMST TUBES FROM MAJOR ASSEMBLIES OR UNITS	0	0	0
T1227	T3-08 DO YOU PERFORM TASKS THAT MAKE IT NECESSARY TO NAME THE VARIOUS ELEMENTS OF DVST	0	0	0
T1228	T3-09 DO YOU PERFORM TASKS THAT MAKE IT NECESSARY TO NAME THE VARIOUS ELEMENTS OF HMST	0	0	0
T1229	T3-10 DO YOU PERFORM TASKS ON FLOOD GUNS	0	0	0
T1230	T3-11 DO YOU PERFORM TASKS ON WRITE GUNS	0	0	0
T1231	T3-12 DO YOU PERFORM TASKS ON ATTACK GUNS	0	0	0
T1232	T3-13 DO YOU PERFORM TASKS ON ERASE GUNS	0	0	0
T1233	T3-14 DO YOU PERFORM TASKS ON STORAGE GRIDS	0	0	0
T1234	U1-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY PROGRAMMING	11	9	50
TASKS				
U1235	U1-02 DO YOU USE OR REFER TO DECIMAL SYSTEMS	5	3	0
U1236	U1-03 DO YOU USE OR REFER TO PROGRAMS	2	3	0
U1237	U1-04 DO YOU USE OR REFER TO HEXIDECLIMAL SYSTEMS	2	1	0
U1238	U1-05 DO YOU USE OR REFER TO 8-4-2-1 SYSTEMS	2	1	50
U1239	U1-06 DO YOU USE OR REFER TO FOUR SYSTEMS	1	1	0
U1240	U1-07 DO YOU USE OR REFER TO BINARY SYSTEMS	8	4	50
U1241	U1-08 DO YOU USE OR REFER TO TIME-SHARING	2	0	50
U1242	U1-09 DO YOU USE OR REFER TO DATA WORDS	0	0	0
U1243	U1-10 DO YOU USE OR REFER TO ADDRESS WORDS	0	0	0
U1244	U1-11 DO YOU USE OR REFER TO ADDRESS/SUBADDRESS	0	0	0
U1245	U1-12 DO YOU USE OR REFER TO STEERING INFORMATION	1	1	0
U1246	U1-13 DO YOU USE OR REFER TO INFORMATION WORDS	1	1	0
U1247	U1-14 DO YOU PERFORM TASKS ON SINGLE LEVEL PROGRAMMING	7	4	50
U1248	U1-15 DO YOU PERFORM TASKS ON MULTILEVEL PROGRAMMING	0	0	0

PCT MEMBERS RESPONDING (YES) BY SELECTED GROUPS
 TASK GROUP SUMMARY
 PERCENT MEMBERS PERFORMING

UPSUMI PAGE 44

0Y-1TSK	SPC COI	SPC COI	SPC COI	SPC COI
U1249 U1-16 DO YOU PERFORM TASKS ON INPUT DEVICES	8	7	50	
U1250 U1-17 DO YOU PERFORM TASKS ON STORAGE DEVICES	4	3	50	
U1251 U1-18 DO YOU PERFORM TASKS ON ARITHMETIC SECTIONS	2	2	50	
U1252 U1-19 DO YOU PERFORM TASKS ON CONTROL SECTIONS	5	3	50	
U1253 U1-20 DO YOU PERFORM TASKS ON OUTPUT DEVICES	7	5	50	
U1254 U1-21 DO YOU PERFORM TASKS ON POWER SUPPLIES	7	4	50	
U1255 U2-01 DO YOU USE DECIBELS TO EXPRESS AMPLIFICATION AND ATTENUATION	2	2	0	
U1256 U2-02 DO YOU USE LOGARITHMS TO COMPUTE OUTPUT POWER IN DECIBELS	0	0	0	DB AND POWER RATIOS
U1257 U2-03 DO YOU USE LOGARITHMS TO COMPUTE ATTENUATION IN DECIBELS	0	0	0	
U1258 U2-04 DUMMY TASK TO IDENTIFY INCUMBERS WHO PERFORMED NO TASKS	18	19	0	





AD-A044 114 AIR FORCE OCCUPATIONAL MEASUREMENT CENTER LACKLAND A--ETC F/G 5/9
INSTRUMENT TRAINER SPECIALIST AFSC 34151.(U)
AUG 77 T J O'CONNOR, M J KELLEY

UNCLASSIFIED

NL

2 OF 2
ADA
044114

SUPPLEMENTARY
INFORMATION

INFORMATION

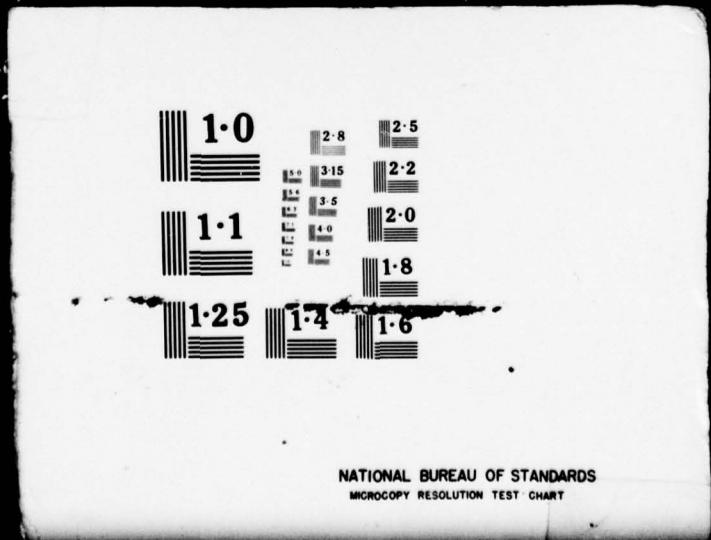
INFORMATION

END
DATE
FILED

1 -79
DDC

2 OF 2
ADA

044114



SUPPLEMENTARY

INFORMATION

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

Corrected

REPORT DOCUMENTATION PAGE			READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER AFPT 90-341-222	2. GOVT ACCESSION NO. AD A044114	3. RECIPIENT'S CATALOG NUMBER 1504	
4. TITLE (and Subtitle) Instrument Trainer Specialist AFSC 34151	5. TYPE OF REPORT & PERIOD COVERED FINAL April 77 - June 77		
7. AUTHOR(s) Thomas J. O'Connor Michael J. Kelley	6. PERFORMING ORG. REPORT NUMBER		
9. PERFORMING ORGANIZATION NAME AND ADDRESS Occupational Survey Branch USAF Occupational Measurement Center Lackland AFB TX 78236	10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS N/A		
11. CONTROLLING OFFICE NAME AND ADDRESS SAME AS ITEM 9	12. REPORT DATE 22 August 1977		
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)	13. NUMBER OF PAGES 4		
15. SECURITY CLASS. (of this report) UNCLASSIFIED			
15a. DECLASSIFICATION/DOWNGRADING SCHEDULE			
16. DISTRIBUTION STATEMENT (of this Report) Approved for public release; distribution unlimited			
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)			
18. SUPPLEMENTARY NOTES			
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Electronic principles Electronics Basic electronics Air Force training Avionics Teaching methods Electronic equipment Training Electronic technicians			
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) This report summarizes the results of the administration of the Electronic Principles Inventory to airmen assigned as Instrument Trainer Specialists (AFSC 34151). The report gives a detailed listing of the technical tasks and knowledge needed to perform the jobs within the speciality or career ladder.			
CONTINUED			

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

This specialty has the following functions:

Installs, operates, maintains, and repairs instrument and cockpit procedure trainers; and instructs student and rated pilots in instrument flying and navigational procedures. Performs maintenance or instrument and cockpit procedure trainers. Installs and repairs instrument and cockpit procedure components. Operates and instructs on instrument and cockpit procedure trainer and related equipment. Supervises instrument trainer personnel.

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE(When Data Entered)